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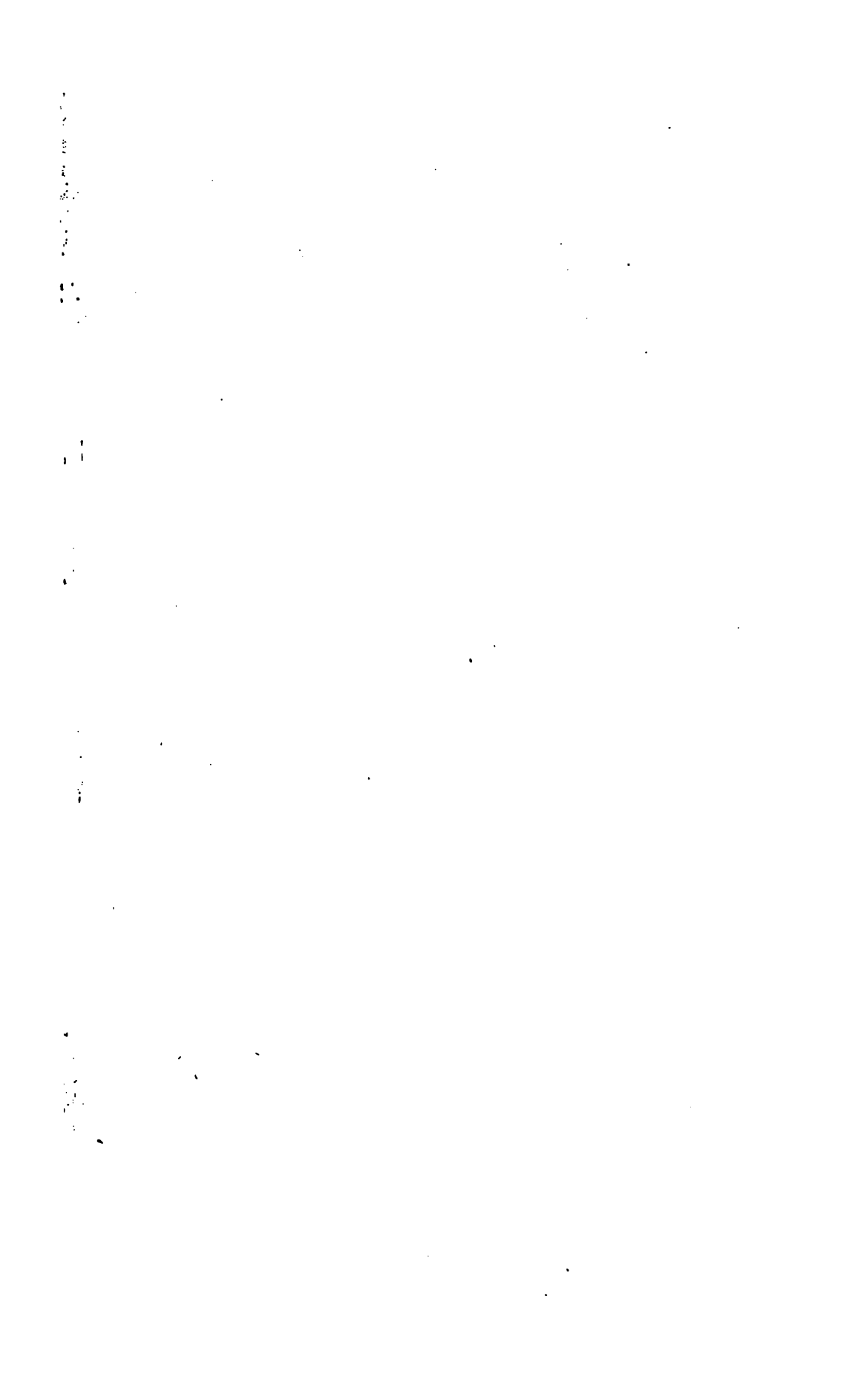
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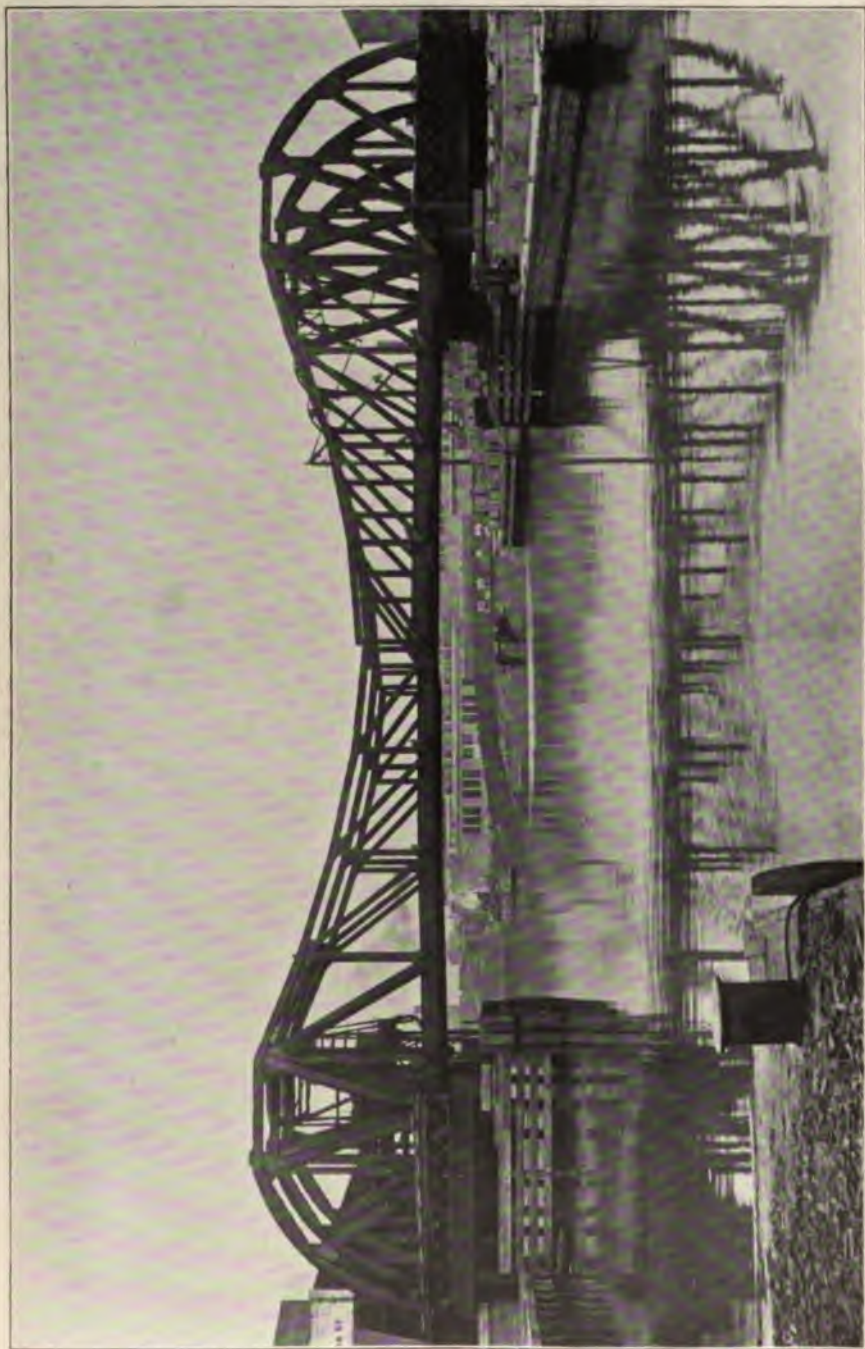
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CLYBOURN PLACE BRIDGE.

MAYOR'S ANNUAL MESSAGE

AND THE

Twenty-Sixth Annual Report

OF THE

DEPARTMENT OF

PUBLIC WORKS

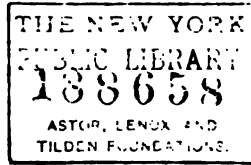
FOR THE

City Council of the City of Chicago

FOR THE

Fiscal Year Ending December 31

1901



90v



**MESSAGE OF
MAYOR HARRISON**



Message of Mayor Harrison.

MAYOR'S OFFICE, CHICAGO, April 7, 1902.

*To the Honorable, the City Council of the
City of Chicago:*

GENTLEMEN—For years back the annual messages of each successive Mayor have largely been devoted to the financial embarrassments of the City government. In these messages the gamut has been run both in citing causes for our municipal poverty and in offering suggestions for measures of relief. Again and again has attention been called to the various and growing needs of the municipality; needs which increase from year to year with the education of the general public to what it may justly expect of a modern city government. Over and over again attempt has been made to drive home the truth that Chicago is suffering serious if not irreparable injury because of its financial difficulties. Time after time has it been sought to bring the public face to face with the facts and to open its eyes to the necessity of changing conditions in the interest of the present and for the betterment of the future Chicago.

DRASTIC REMEDIES FOR FINANCIAL CONDITIONS.

The warnings which have been given in the past must be given again to-day. Financially the City's affairs are going from bad to worse. The embarrassment of 1901 has become poverty in 1902; and, unless stringent measures of relief be resorted to, the poverty of 1902 will become positive destitution in 1903. These are strong

words and I would not resort to their use were I not absolutely convinced of the necessity of employing heroic treatment and drastic remedies to give the City relief.

In the past few years two measures dealing with the raising of revenue by taxation have been enacted into law by the legislature of Illinois. Each of these measures promised municipal relief. The proponents of each descanted at length and with seeming enthusiasm upon the benefits Chicago was to receive. Each has done its share towards putting the municipality deeper in the financial mire. Had these measures merely failed of increasing the City's revenue from taxation, although the City might well have felt itself the victim of a confidence game played upon it by some of its most respected citizens, the evil would not have been so great. Your appropriation bill would have been cut to fit the estimated income and, while much necessary work would have been left undone, the purely financial difficulties of the City would not have been increased.

BOARD OF REVIEW AND ASSESSORS ACT ILLEGALLY.

In 1899 the assessed valuation of property in this city was vastly increased; your Committee on Finance based its bill upon that increase, as it not only had the right but was under obligation to do. The public was clamoring for improvements of the most vital necessity and your Committee would have failed of its bounden duty had it neglected to do its part towards providing for them. Consequently in the spring of 1900 the appropriation bill as passed by your Honorable Body was based upon an estimated income from taxation of \$6,593,751.60. This sum, it may be said in passing, was inadequate; with it the municipality could not meet the various demands of its citizens. During the early summer of that year rumors became current of the intention of the Board of Assessors and the Board of Review to reduce the assessed valuation of Cook County. The reason ascribed for this wholly unwarranted and wholly illegal act was the action of the Supreme Court of the State in finding the revenue act of 1899 unconstitutional.

ADMINISTRATION FORCED TO ACT IN SELF DEFENSE.

In self defense it became necessary for the administration so to cut the running expenses of the City government as to meet the expected cut. The rumors of the early spring became settled facts when the reports of the taxing bodies were finally made. Then it was learned the municipal income from taxation was to be \$5,365,378, instead of \$6,593,751.60—a flat reduction of \$1,228,373.60. Fortunately the administration had taken time by the forelock; it was thereby enabled to finish up the year with no more serious loss than seriously crippled departments and the carrying over of a goodly amount of unpaid bills. Had the rumor not been promptly and effectively acted upon the financial condition of the City at the beginning of the year 1901 would have bordered upon absolute bankruptcy.

The appropriation bill of 1901 was based upon an estimated income from taxation of \$6,747,227.02. Of this amount \$1,049,000 was injected into the bill to care for permanent improvements and was only to be expended in the event of the assessed valuation of City property being largely increased by the taxing bodies. In other words, your Committee on Finance counted with certainty upon an income from taxation of \$5,698,227.02. Fate again was evilly disposed towards the municipality. The legislature passed the second of its recent revenue bills and again it became necessary in the middle of the year, after all the departments had been thoroughly organized and were in perfect working order, to apply the scalpel and cut appropriation after appropriation to the quick until the latest situation had been disposed of.

LEGISLATURE AND TAXING BODIES TREAT MUNICIPALITY UNFAIRLY.

It demands no great stretch of the imagination to conceive that for the past several years the legislature and the local taxing bodies have been engaged in a game of battledore and shuttlecock with the municipality, in which the latter has been driven here, there and every-

where, just as it suited the capricious will of the bodies which have been making sport of its misfortunes.

Within the past few weeks your Honorable Body has passed the appropriation bill of 1902. In this measure the knife has mercilessly been applied to every branch of the administration. Expenditures have been pared to the bone. So meager and inappropriate are the allowances made to the various departments that in at least two of them, the Police and Fire Departments, there is practical demoralization. And yet so primitive is our taxing system and so without control or check are the taxing bodies, there is no certainty the meager revenues of the City, as estimated by your Committee on Finance, may not again be attacked, making a new reduction of expenses a necessity in the middle of the current year.

That a great corporation, entrusted with the protection of the property, the health and the lives of approximately 2,000,000 souls, should be obliged to make its distribution of expenditures but once a year, and that at a time when it is in complete ignorance of the totals its revenues will amount to, would be laughable were it not for the serious side of the case. Under the law the appropriation bill must be passed in the first three months of the year, while the full equalized value of City property is not fully determined until December, eight full months after the City's appropriations have been made. This fact has been dwelt upon and made prominent so often that a reiteration of it may seem uncalled for; yet after all the prominence which has been given it the number of citizens who understand it and appreciate the difficulties which must follow in the wake of so crude a system is small beyond belief.

AVERAGE CITIZEN NOT POSTED ON FACTS.

The average citizen knows something is wrong with his City government, and that is about all. He knows that for the lack of funds he is deprived of almost numberless comforts and conveniences to which, being a resident of the second city on the continent, he thinks

himself as a matter of right and justice entitled. The reason for the lack of funds he does not know and does not understand.

He sees a great city, whose energy and progress are proverbial, performing its work and caring for its citizens in a manner a generation behind the times. He learns his life and property are under the protection of an undersized as well as underpaid Police Department, housed in stations which are not only architecturally a discredit to their immediate surroundings but are a positive menace to the health of their occupants. He sees a Fire Department, famed in all quarters of the globe for its efficiency as a whole, as well as for the daring and enterprise of its individual members, put to the alternative of either reducing the number of its members, already too small, or cutting the pay, already inadequate, of men who risk their lives day after day in their dangerous calling. He sees a Health Department, which has built up an international reputation for ability, efficiency, and scientific research, hampered not only in progressive investigation but in every-day measures of protection by inadequacy of appropriation. He sees the Lighting Department, with its good record for business-like methods and intelligent, wide-awake policy, compelled to reduce rather than to increase its capacity. He sees the Public Works Department, except in the branches of work paid for out of the Water Fund, at a practical standstill, while in these branches new methods have been established of performing municipal work economically, efficiently and without scandal. He sees his garbage handled in a barbarous manner, alike repugnant to intelligence, to health and to common decency, all for the lack of means to install a modern and scientific method of reduction or destruction. He sees his bridges rotting, falling into the river, or going into disuse, while municipal poverty deprives the administration of the ability to replace them with new bridges of modern type suited to the present commerce of the river. He sees this commerce threatened with, if not indeed subject to, positive injury by tunnels obstructing the navigation of the river, and the municipal government unable to remove or lower them on account

of its financial difficulties. He sees sidewalks and street pavements, once the contractor's guarantees have expired, going to rack and ruin, and no step taken to repair or renew them, although he believes with all students of municipal affairs that once a permanent improvement has been made by a property owner the future care of the improvement should be taken by the municipality, which has no moral right to call upon the taxpayer to pay for a second improvement.

DEPLORABLE CONDITIONS DUE TO FINANCIAL SYSTEM.

In short, to whatever department his attention may be called, he will find similar conditions, expenditures cut to the quick, permanent improvements arrested, an inadequate force, reduced pay, and, as a result, general demoralization. These conditions are necessary corollaries of the prevailing system. Public work like private work cannot be performed without money; workmen will not perform their best work unless adequately paid. A department cannot properly be maintained without a suitable organization; organization cannot be had when the men constituting it do not know from one month to another what their pay is to be or how long their tenure of office. An organization completed in January and cut in half in July is destroyed as far as its usefulness is concerned. For example, when 2,500 policemen employed at \$1,000 per year make in January what they consider a righteous request for an advance in pay, only at the end of the first quarter of the year to find themselves compelled to take a month's vacation without pay or permit between three and four hundred of their fellows to be deprived of their positions, one should neither be surprised nor find cause for grumbling if in the Police Department something akin to demoralization ensue.

These are stubborn facts for which a remedy must be found and found quickly. These conditions have existed for years, the only change in them being a gradual making for the worse, until to-day they have reached a point where no resident of Chicago, be he capitalist, business man, mechanic, or laborer, can afford to let them even

stand still; they must be improved, or Chicago from center to circumference will suffer irremediable injury and every citizen, whether rich or poor, will suffer incalculable harm.

REMEDY LIES IN A MODERN CHARTER.

Where, then, is the remedy to be found? Personally I do not believe a complete remedy can be had except through the instrumentality of a complete modern charter. Were the sore spots not so many, legislative action and an occasional constitutional amendment might work a cure. Chicago's case demands heroic treatment and heroic remedies must be applied. The only agency which in my opinion can apply these remedies is a constitutional convention. For years and years we have had a make-shift City government. Permanent improvements have either been neglected or have been made in half-way measure, and have been paid for out of the annual income. When an improvement of imperative necessity and of too great magnitude to be handled in this way has been demanded, a new taxing body has been created, and in this manner new causes for future trouble have been created.

The close observer of Chicago's municipal affairs must soon observe two ills, a simultaneous cure for which at first blush seems almost beyond reach. He becomes impressed with the certainty of the average citizen paying all in a way of taxation he should be called upon to pay, if indeed not more than should be demanded of him in a well-regulated community. He cannot escape the farther conviction that the municipal government receives too small a revenue from taxation to meet its obligations to the public. These two propositions seem impossible of reconciliation until a more careful scrutiny develops the explanation: the municipality proper receives as its share of revenue from taxation a sum unreasonably disproportionate to and quite out of keeping with the total amount of taxes raised within its own limits. A distribution is out of all reason which gives the City government proper, performing as it does the lion's share of municipal functions, but 23 per cent of the money raised from taxation in its own territory.

AVERAGE CITIZEN TAXED ENOUGH ALREADY.

The question then is not one of increasing taxes paid by the average citizen, for already enough, if not too much, is exacted of him. Great corporations, great capitalists and great business interests manage to escape the payment of a fair tax, it is true, and every effort should be made by your Honorable Body through an appropriate committee carefully to scrutinize the assessing for purposes of taxation of this and kindred property. The average citizen, if anything, is overtaxed. What is needed is a fairer distribution of the funds raised between the various taxing bodies, while they continue to exist; while earnest effort should be made to bring about the ultimate extinction of all separate taxing bodies except the City of Chicago and the Board of Education within Chicago's limits. The towns, the parks, the Sanitary District and the county (the latter as far as it concerns Chicago), all should be brought under one common care and direction. Responsibility should be centralized; the obligation to give good government should be centered in one official circle; then watchfulness can be focused on one point and responsibility not be shirked nor evaded.

This question was discussed by me at length in the message I submitted to your Honorable Body at the expiration of the year 1899. I can add nothing to the declarations of that message to emphasize the necessity of a general consolidation of local taxing bodies. One declaration will well bear repetition, however, for it should not be lost sight of in any steps to be taken toward bringing about this much-needed reform. Opposition should be determined and unalterable to any proposed measure of consolidation having for its purpose the enlargement of the territory occupied by the City of Chicago.

CHICAGO'S TERRITORY SHOULD NOT BE EXTENDED.

In considerable measure the existing civic evils may be traced to a common origin, the great territory, sparsely settled and scantily improved, which makes up Chicago. The revenue from taxation as well as from miscellaneous sources raised in these outlying districts is comparatively small, while the demands of their citizens for improvements,

protection and measures of public comfort are great. The citizens of these sections with justice demand attention to their wants at least approximately equal to the attention bestowed upon more populous districts. These demands must be heeded by your Honorable Body as well as by the executive branch of the City government.

Chicago's territory is to-day too great, and warning to this effect should be published broadcast. An attempt to increase this territory should meet with instant and emphatic discouragement. The ideal city is compact. With its area fully occupied the care of all branches of administration can be applied to all sections expeditiously and well. In such a city public service can be satisfactorily and easily administered; police and fire protection can be fairly and impartially given; measures of health can be centralized and used to the best advantage; schools can be distributed with almost mathematical precision. There is no loss of force, no waste of energy.

In a city such as Chicago, on the other hand, where the population, great as it may be, is scattered over a wide expanse of territory, public service is spread out too thin. As a result great sums of money are spent for comparatively unsatisfactory work. Existing conditions are not to be altered. From them we may learn the lesson experience teaches of the desirability of a compact city and by the guidepost of salutary warning so guide our future steps as to avoid adding new difficulties to the difficulties under which our city is laboring, and so go from bad to worse.

DIVIDED RESPONSIBILITY OF CITY AND COUNTY HARMFUL.

The fact of Chicago's population being spread over an expanse of 196 square miles works to the disadvantage of the municipality, crippling every effort to give good government. The fact of Chicago's management of public affairs and exercise of municipal functions being divided up among eight different corporations, each levying its own taxes, maintaining its full complement of officers and employees, managing its own affairs and spending its own money without regard to unity of action or community of purpose, works irremediable in-

the City, to develop the great water power of the Drainage Canal at Lockport, to build new police stations and engine houses which shall be ornaments to the neighborhoods in which they are erected; to purchase property along the lake front to be used as bathing beaches, and to erect bathhouses, permanent and attractive, to care for bathers of both sexes; to construct modern plants for the destruction of garbage.

WATER POWER OF LOCKPORT SHOULD BE UTILIZED.

Chicago's helpless financial condition cannot be better shown than by citing the case of the magnificent water power lying dormant at Lockport. This water power by all the laws of equity and justice belongs to the citizens of Chicago, whose hard-earned taxes have gone towards its creation, whose future earnings are pledged to pay up the bonds and thus settle in full for it. For three years the water power has been lying idle, awaiting the time when the City of Chicago, with all its tremendous wealth, with its business activity and love of progress, shall find the means of raising the comparatively paltry sum of \$2,500,000 needed to develop it and harness it for use.

In the meantime there is the constant danger of the diversion of this great water power, with its tremendous possibilities in the shape of economy, from its rightful owner, the people of Chicago, to some one of the many individual schemers or corporations which are hungry for its possession. In the five years I have been Mayor, the City of Chicago, thanks to the antiquated provisions of the charter under which it must work, has paid off \$1,615,950 of its bonded debt. Not one dollar of this money has it been able legally to transfer to the development of a water power whose use would enable the City to make its dark corners bright, make its streets by night as bright as by day, add incalculably to the value of its police force, and save thousands upon thousands of dollars annually to its heavily burdened tax-payers.

The following tables prepared by the Public Accountant and Auditor of the City of Boston and submitted by the Mayor to the Board of Aldermen make interesting reading:

REVENUE COMPARISONS WITH OTHER CITIES SHOW CHICAGO GETS WERE PITTANCE.
COMPARISON OF REVENUES, PER CAPITA, BY SOURCES IN 1900.

	Boston.	New York.	Average Ten Cities.	Chicago.	Phila- delphia.	St. Louis.	Balti- more.	Cleve- land.	Buffalo.	Mil- waukee.	Provi- dence.	Indian- apolis.	Kansas City.
Population.....	561,000	3,437,000	500,500	1,099,000	1,294,000	575,000	509,000	392,000	352,000	265,000	176,000	102,000	164,000
Wealth per capita value at 100.....	\$2,012.79	\$1,458.27	\$1,038.86	\$1,177.17	\$877.87	\$1,014.51	\$1,109.70	\$784.13	\$897.86	\$924.99	\$1,001.58	\$1,124.33	\$1,134.61
Property tax.....	\$28.72	\$21.69	\$11.42	\$8.41	\$14.07	\$11.43	\$11.38	\$9.33	\$11.03	\$10.50	\$17.53	\$8.16	\$9.42
Liquor licenses.....	2.61	1.05	1.25	1.87	1.33	1.74	.78	1.21	1.46	1.18	1.18	1.06	.70
Other licenses.....	.09	.15	.36	.32	.49	.89	.11	.04	.12	.10	.23	.41	.85
Fines and fees.....	.32	.24	.25	.31	.51	.49	.10	.34	.03	.15	.22	.09	.23
Franchises.....	.10	.16	.29	.29	....	.27	.67	.19	.14	.35	.62	.33	.12
Water works.....	1.57	2.09	2.00	1.94	2.48	2.79	1.86	2.00	1.85	1.21	3.28	.01	2.61
Special assessments.....	.63	.99	.88	1.90	....	.34	.10	1.76	2.13	1.67	.35	1.49	....
Docks and wharves.....	....	.72	.02	.01	.03	.11	.07	....	....	....	....	....	....
Gas works, electric light plants, ferries and bridges, markets, con- fectories, bath-houses and others.....	8.31	2.65	1.53	.88	1.48	2.07	4.10	1.80	1.75	.10	1.44	.43	1.31
Total revenue-exclud- ing loans.....	\$45.07	\$80.33	\$18.10	\$15.82	\$30.39	\$30.13	\$19.17	\$16.67	\$21.51	\$15.26	\$34.85	\$11.98	\$15.24

In my message of 1899 I dwelt at length upon the necessity of an increase in the bonded debt of Chicago, as well as upon the safeguards which should be thrown around the moneys raised by such means. Each issue of bonds, I suggested, should be devoted specifically and unalterably to a given purpose; bonds should be issued only as the money to be raised by them was needed; the moneys obtained by their sale were to be expended under the direct and constant care of a board of overseers or directors, appointed for the specific purpose of jealously guarding against a possible misapplication of the funds, as well as against the reckless and unnecessary issuing of bonds. With these precautions scant opportunity would remain for an abuse of the City's power to issue bonds, or for extravagant or dishonest malappropriation of public funds.

Under the present constitution a revenue law must be uniform in its application. If it were not for this provision of the constitution it would be possible to petition the legislature to increase the percentage of two and one-half, established by the present revenue law as the limitation upon the ability of a municipality to issue bonds, and thus obtain relief. While this change would be desirable for Chicago, and would receive the almost unanimous support of its citizens, its desirability is not so marked in other counties, while in some counties the public would look upon it with scant favor. Chicago, therefore, could count upon practically no aid from the outside counties, whose legislators would be lined up in a solid body to oppose such a change.

CHICAGO SHOULD NOT BE TREATED LIKE SCANTILY SETTLED COUNTIES.

There is something of the grotesque in this dependence of Chicago with its 2,000,000 inhabitants upon relief to be obtained from legislators from counties with the scantiest population. There is neither equity nor justice in keeping this great county in subjection to the same laws and limitations which appeal to and govern backwoods counties. Cook County and the splendid City of Chicago should be

freed from the shackles of the existing primitive and out-of-date laws which retard its progress and obstruct its growth. Complete relief can only be had through the instrumentality of a constitutional convention which shall grant Chicago a charter in thorough consonance with its needs and in accord with the times.

While we await the installation of these reforms, Chicago's progressive capitalists, merchants and manufacturers might weigh well in their minds the importance of increasing the annual revenues of the City. The people are entitled to protection of life, limb and property; their children are entitled to a good, common school education. Their demand upon the municipality is righteous for police protection for their persons and their property, for fire protection for their homes and places of business, for health protection for themselves and families. They have a just claim to some of the luxuries of life, such as frequent parks for the adults and playgrounds for the young, well-cared-for streets, alleys and sidewalks, clean by day and bright by night. Their schools, now the best in the land, should be ever maintained at their present high standard. The Public Library should have such financial support as to enable it to serve the citizen expeditiously and well.

AN HONEST SHOWING OF PERSONAL PROPERTY DEMANDED.

These things require money. In what way can the wealthy, progressive citizen more readily and more effectively show his loyalty to the City, whose growth and greatness has enabled him to amass his wealth, than by paying willingly and without a murmur every dollar of the personal tax he owes to the municipality? An honest showing of the personal property of Chicago would enable the community to do its duty by its citizens. It is time for our so-called "better classes" to open their eyes to the fact that honest schedules are as essential to the City as are honest aldermen. The difference between the boodle alderman and the citizen who boodles in making out his personal property schedule is not noticeable to the naked eye.

Chicago cries out to-day for a return to the old-time spirit which made the City's name famous the world around. The men who made Chicago for the most part have passed away. With them their City was a pride and a boast. They knew Chicago. Its equal for progress, for growth, for enterprise, for courage, the world had never seen. In the early decades of the past century its site had been a swamp, the home of the deer, the wolf and the bear; where to-day skyscrapers tower, swarms of wild fowl had made their nests. A trader or two, an occasional wanderer and the aborigines were its only human inhabitants. It had no advantages a dozen other spots did not possess. Indeed, other places had the advantage over it of earlier settlement. It grew and other settlements grew. But they did not grow as it grew. Chicago had in its favor a citizenship of heroic mold, to whom no obstacle was insurmountable, no danger too great, no scheme too vast. It was the all-conquering, unconquerable, indomitable spirit of its citizenship that made Chicago.

OLD CHICAGO SPIRIT DORMANT, NOT DEAD.

That spirit cannot be dead.. The fathers, the men of vast design, broad vision and courageous heart, have passed away, but their blood is still here. A reincarnation of the old-time Chicagoan with two years of the old Chicago spirit will accomplish more of purpose than a generation of helpless criticism, dawdling complaint, and pale-livered aestheticism. The Chicago spirit still exists. It demands, and it has a right to demand, of those who have been made rich by the City's titanic growth, appreciation of their debt, gratitude for the ease, comfort and luxury of their daily lives, and a willingness cheerfully to aid the City, which has given them all they have.

My views of the traction question and of the conditions upon which an extension of franchise should be granted were given exhaustively in the special message I submitted to your Honorable Body on January 6th of this year. At that time I discussed the question at length and in all its bearings. To what I said at that time there is little for me to add.

Two points by an oversight not treated at that time are worthy of consideration. The public has so vital and absorbing an interest in the character of service given by a traction company, as well as in the guaranty of an uninterrupted service, that in the consideration of an extension ordinance careful attention should be given to the relationship of the corporation to its employees. Whether the municipality should go so far as to establish a uniform scale of wage and a maximum time for a working day are points urged by union labor but still open to doubt. They should certainly be discussed in all their bearings before a final decision is reached.

SYSTEM OF ARBITRATION FOR STREET RAILWAY EMPLOYEES.

Some safeguards should be thrown around the employees. In protecting the employe, in fact, we are protecting the public. The City has the unquestionable right, if indeed the duty does not devolve upon it, of establishing some method of arbitrating labor difficulties, liable to arise between a traction company and its employees. A street car strike not only upsets transportation and deprives the citizen of the opportunity to ride; by its very nature it is certain to culminate in serious disorders if not riots; bloodshed is almost the inevitable result. The scenes that ensue lead to certain demoralization of a part of the public. Every effort should be made to establish a permanent system of arbitration by which disputes may be settled rapidly, peaceably, and in a law-abiding manner.

An evil of Chicago's transportation facilities is the train system. To save the hire of an extra motorman or gripman the custom has grown up of running two and three cars in a train. As a result street crossings are frequently blockaded, the time required to start or stop a train is increased, citizens are compelled to submit to longer waits for car service, and a longer time is taken to load and unload passengers. The ideal traction system gives single car service. Single cars are more easily kept in motion, there is a shorter wait between cars, blockades are of less frequency, and good service is in every way pro-

moted. "One car" service should be insisted upon in an extension ordinance and the train service should be absolutely prohibited.

The elections of recent date have shown in unmistakable manner the existence of a strong popular sentiment in favor of the municipal ownership of street railroads. In view of the almost unanimous declaration of the voters upon this proposition I cannot too strongly urge upon your Honorable Body the importance of deferring any grant of franchise to the traction companies until the City shall have obtained enabling legislation by which it will be empowered to own its inter-urban transportation facilities. If this power is to be obtained by the City from the legislature, the grant of enabling legislation must antedate the grant of extensions. The people have expressed their will. Your Honorable Body cannot obey the mandate except by serving notice upon the traction companies that until the City shall have received the legislation to which it is entitled and which it desires, the question of extending the existing franchises must lie in abeyance.

PRACTICABILITY OF REFERENDUM SYSTEM PROVED.

All lovers of good municipal government should find cause for rejoicing in the splendid proof the citizens gave in the recent election of the practicability of the referendum as a means of learning popular sentiment. Two years ago, in laying down the five cardinal points of franchise extension, I first broached the idea of requiring a favorable expression of popular sentiment as a prerequisite to the grant of an extension ordinance. The suggestion was visited with severe criticism. It was claimed popular interest could not be sufficiently centered upon a given question to obtain a response from a sufficient number of voters to make the vote a fair gauge of public opinion. The recent vote on the so-called "little ballot" affords an emphatic and conclusive answer to the criticism. The public takes an absorbing interest in all questions concerning the settlement of the street railway controversy. The miserable service of to-day has been borne by the users of the street cars so long and so patiently that a few months

more of antiquated service will be willingly endured rather than that the City should to-day yield up the fruits of its long and hard-fought battle. The voters have cast their ballots overwhelmingly in favor of municipal ownership; in casting their ballots they have shown the practicability of the referendum as a means of learning the trend of popular opinion. Your Honorable Body will mistake popular sentiment if you fail to give proper heed to the people's mandate and by that failure tie up this municipality in a fresh twenty years of servitude to the traction companies without laying firmly and immovably the foundation stones of municipal ownership.

STREET PAVING PROBLEMS DISCUSSED.

In my last year's message I discussed at some length the street paving problem. There are but two kinds of paving material now in general use in Chicago which may be called even partially satisfactory—dressed granite block and asphalt. The former makes a magnificent material for the pavement of heavy traffic streets; the latter serves the same purpose on light traffic streets. Short streets and courts only used by teams for the occasional delivery of goods may be paved by the property owner with vitrified brick, who will find this material fairly serviceable as a paving material. While brick will not stand heavy or even medium traffic, it forms a clean, healthy surface for streets not subjected to heavy use and has but one objectionable feature, its noisiness. It is far cleaner, and under the above restrictions more satisfactory than macadam, which should only be made use of in outlying districts, being dusty in dry weather and muddy in wet.

For the sake of introducing competition in the paving-market it might be well to give the creosoted block pavement a thorough test. In June of 1900 a sample of the creosoted block pavement was laid in front of the Auditorium in Michigan boulevard, and on this heavily traveled street has shown most excellent wearing qualities. In November of 1899 one-half of the Rush street bridge was paved with the same material. The traffic on this bridge is of the heaviest char-

acter; being narrower than the street on both sides of it and carrying all the light traffic of a larger portion of the North Side in addition to the heavy traffic from the wholesale district, from the river docks and from the railroad freight houses, the paving is subjected to what is in all probability as severe and exacting a test as any single piece of paving is put to in Chicago. The following is a statement made by one of the City's Assistant Engineers:

"I have examined the creosoted block pavement in Michigan avenue in front of the Auditorium Hotel and also the pavement of the Rush street bridge. I find on Michigan avenue the pavement to be in first-class condition, showing practically no wear. On the bridge I removed the pavement in each roadway and find that the untreated pine block pavement shows a wear at some points of as much as two inches, and in the creosoted roadway the maximum wear seems to be about one-eighth of an inch and is very uniform. I should say that the average wear between the two roadways is in favor of the creosoted block six to one, or an average wear of three-fourths of an inch in the common block and one-eighth of an inch in creosoted pavement."

CREOSOTED BLOCK PAVING EXPERIMENT FAVORED.

Because of this favorable showing business prudence would suggest a thorough experiment with creosoted block pavement. Its cleanliness and comparative noiselessness render it an ideal paving material, if its wearing qualities will survive the test.

CIVIL SERVICE LAW.

The civil service law has become a thoroughly established feature of our municipal government. For two years practically every employe of the City has been under civil service, having received his appointment as a result of a competitive examination. During the first three years of my service as Mayor the law was gradually established, until to-day, with the exception of the "holdovers" from previous administrations, there is hardly an employe of the City who is not under its protection. In these years the law has received a thorough test; its good qualities have been shown; its weaknesses have been devel-

oped. From local experience I should ascribe as its chief advantage not so much the securing of a higher grade of employe than was secured under the old system as the prevention of the employment of an employe, good, bad or indifferent, merely for political purposes, rather than to meet a requirement of the municipality. The prevention of so-called pay-roll stuffing, if it were the only advantage derived from the law, would be ample warrant for the introduction and retention of the system.

CIVIL SERVICE LAW AMENDMENT RECOMMENDED.

When the time comes that an effort may be made to amend the civil service law without positively endangering its very existence, in my opinion at least two changes should be made. In positions requiring the exercise of executive ability, such as heads of bureaus, commanding officers of the Police and Fire Departments, etc., the appointing power should be given some latitude in exercising a choice among the number of names certified. It is beyond reason to expect a written examination to develop executive qualities. An attempt is made to avoid this difficulty to-day by certifying the highest three from a given list to the appointing power and eliminating from the list a name which after three certifications has been rejected. A preferable method would be to require a higher average than 70 per cent. for success in passing a promotional examination. The list when made up should then be certified in its entirety to the appointing power, who could exercise his judgment in selecting the most promising candidate after a careful scrutiny of all the names submitted.

As the second amendment I would suggest giving the appointing power the absolute power to discharge. Under the present system the appointing power merely has the right to suspend, subject to the right of the suspended employe to demand a trial under the charges laid against him. In cases of outright wrongdoing the present system works satisfactorily. The head of a department may have moral certainty, however, of culpability on the part of a subordinate and yet

lack the ability of giving definite proof. The Superintendent of the Police Department may be convinced in his own mind of the moral turpitude of a subordinate and yet lack the facts that would sustain charges before a trial board. An employe may be so shiftless and wanting in application and energy as to render him valueless as an employe. These qualities are not subject to definite proof on a trial, and the service is encumbered with an employe whose continuance in his position is demoralizing an office full of fellow employes. The inability of the appointing power to select the individual to fill the vacant place removes the temptation to discharge for improper purposes, and the department head is given the power to enforce attention to duty and discipline among his subordinates.

In the reports of the heads of the various departments, compiled in connection with this message, details of the working of each department will be presented elaborately. It will suffice here to refer to some features calling for special attention.

POLICE DEPARTMENT.

No administration measure put into operation during the past year has been more worthy of commendation or more productive of beneficent results than the wine-room ordinance. The public can form but a limited idea of the difficulties overcome and the influences resisted in securing the passage of this measure. Having passed the Council, many and doleful were the predictions that it would prove to be but a flash in the pan; that it would soon become a dead-letter ordinance. Notwithstanding these forebodings, the ordinance has been faithfully enforced, to the delight of all who deplored the existence of the evils which it was designed to minimize. It is not extravagant to say that no ordinance passed by the Chicago City Council has produced such a noticeable moral effect on the community. The wine room was the primary school of depravity, the vestibule to a life of degradation. It has been suppressed and it must stay suppressed. The Police Department is to be complimented on the thorough manner

in which the ordinance has been enforced, and on its success in the suppression of open gambling, which, by the way, has at no time been tolerated since 1897. Pool rooms have been closed and kept closed. The difficulty of absolutely suppressing the elusive handbook is, of course, apparent, but so successful have the efforts of Chief O'Neill been in this respect that the telephone plan, I am informed, is the only method by which money can be placed on the races in Chicago. And constant surveillance makes this method of placing bets extremely difficult.

To the most casual observer improvement in the moral conditions of the City is apparent. This improvement I attribute in a large measure to the enforcement of the wine-room ordinance already referred to, to the elimination of the levee features from the business district, to the establishment of the Municipal Lodging House, and to the general spirit of intelligence, discipline and industry manifested by the Department of Police from chief to patrolman.

The utter inadequacy of the force as to numerical strength makes its work all the more commendable.

Statistics supplied by the Superintendent of the Municipal Lodging House prove how desirable was its establishment. The following figures cover the period from December 21, 1901, to April 1st:

Number of lodgings given.....	6,625
Number of meals served.....	12,044
Number of situations supplied.....	1,215
Number of hours worked on the city streets.....	1,869
Number of medical examinations.....	6,490
Number of lodgers vaccinated.....	1,203

These figures, while clinching the contention that the institution is not only desirable but a necessity, and showing what direct good was done during the winter in affording emergency assistance, give no adequate idea of what crime it prevented by extending a friendly hand in the hour of helplessness and perhaps of despair. The winter just ending, a comparatively mild winter, was an ideal one in which to test the value of the institution.

DEPARTMENT OF HEALTH.

Despite the fact that epidemic diseases were prevalent throughout the civilized world in 1901 and that many cities suffered severely, both in loss of life and in moneys expended for the suppression of contagion in various forms, Chicago has been remarkably free from any disastrous visitation of this kind. This immunity, which means so much as affecting the material interests of the people, is due largely to the preventative and educational methods of the department, aided as it has been for a number of years by the medical profession and the public press. A striking illustration of the efficacy of the methods employed is shown in the few cases of smallpox in Chicago during a period when the territory contributory to the City has been severely afflicted with this loathsome disease.

No less important and successful has been the work of the department along other lines tending to conserve and protect the public health. In its sanitary inspection of homes, stores, factories, and premises generally, and that of meat, milk, ice, and other food supplies, the methods employed have been thorough and effective—and this too in the face of enforced reductions in the staff employed. In the municipal laboratory there has been increased efficiency in the work of co-operation with the medical profession in the diagnosis, care and restriction of contagious diseases.

It is gratifying to note the recognition given to the department during the past year, both at home and abroad. At the Paris exposition the department was awarded a gold medal for its exhibit, showing the methods and results of its handling of contagious and preventable diseases. Only one other health organization in the United States was accorded a similar honor. At the Pan-American exposition at Buffalo the department was also awarded a gold medal for an exhibit similar to that made at Paris.

In brief, there is reason for congratulation on the City's health record for 1901—a record which attests the efficiency of the department's methods, and which have contributed so largely to place Chicago

where it now stands as having the lowest death rate of any city of its size in the world—a rate among the largest American cities of more than 21 per cent less than that of St. Louis, 25 per cent less than that of Philadelphia, more than 30 per cent less than that of Boston, and nearly 35 per cent less than that of New York.

The bathing beach system inaugurated last summer has contributed in no small degree to the good health of Chicago. There is no gainsaying the fact that free bathing institutions tend to advance the general average of public health, while they add to the comfort and happiness of those boys and girls and adults, too, who cannot afford to go to summer resorts, by giving them an opportunity to bathe and swim without hindrance and without cost.

The six bathing places established and conducted under municipal supervision last summer were availed of to an extent that proved their value. The attendance during the season was, in round numbers, as follows:

Oakdale avenue beach.....	50,000
Lincoln park beach.....	60,000
Walker beach	100,000
Fiftieth street beach.....	25,000
Seventy-ninth street beach.....	40,000
Wheeler beach	35,000
Total	310,000

Of this number about 70 per cent were boys, 15 per cent men, and 15 per cent women and girls. The meager percentage of women and girls is due without doubt to the want of suitable accommodations, a want which is to be hoped some means will be found to remedy during the coming season.

SMALL PARKS.

The Special Park Commission, appointed by me, went before the General Assembly at its last session with four bills providing for the establishment of small parks and playgrounds and secured the legisla-

tion desired. One of the acts is of a general enabling character, authorizing the West, South and Lincoln Park Boards to acquire recreation grounds not exceeding ten acres each in area. The other acts permit the three park boards to issue \$1,000,000 in bonds on the West Side, \$1,000,000 on the South Side and \$500,000 on the North Side, the proceeds to be used in the establishment of these breathing-places and playgrounds.

The three park boards are acting in harmony with resolutions of the Special Commission, providing for co-operation of the four bodies in the selection of sites under these acts and for the employment of an expert in park affairs, who may enlarge, amend or confirm the report being prepared by the City Commission. A report on sites and conditions existing in the overcrowded river wards, accompanied by a series of maps, is now being prepared by the Commission.

A lively interest was shown by the public in the opening of the municipal playgrounds during the last summer. Three of these are on property belonging to the City, located at Twenty-fourth street and Wabash avenue; at Thirty-third street, Wentworth avenue and La-Salle street; at West Polk street near Laflin street. Three other playgrounds are operated by the Commission on land leased to the City free of cost. They are located on Bonfield street near West Thirty-first street; on Goose Island; and on Plymouth court near Harrison street. With the exception of the Goose Island ground these playgrounds are situated close to public schools. In the winter all or part of the grounds were made into skating ponds, making popular all-the-year resorts for children and grown persons. Much volunteer assistance has been given the Commission; donations of equipment and skates have been made by citizens and the Turners' societies and athletic organizations have taken an active interest in the movement which in my judgment is one of the most beneficent ever inaugurated in Chicago.

There are at present twenty-four small parks under the care of the Small Park Commission, as follows: Ellis Park, Douglas Monument Park, Aldine Square, Washington Square, Green Bay, Oak Park, Lake-

wood Park, Kedzie Park, Bickerdike Park, Congress Park, Irving Park, Jefferson Park, Eldred Park, Gross Park, DeKalb Square, Norwood Park, Dauphin Park, East End Park, Fernwood Park, Normal Park, Holstein Park, Seventy-second Street Park, Triangular Park, bounded by Ogden, Clark and Wells streets; Triangular Park, bounded by North Clark, Belden avenue and Sedgwick street. Especially in the densely settled districts these breathing spots proved a great blessing to the poorer classes, and during the hot summer days were constantly thronged with men, women and children who live at a distance from the large parks.

COMPTROLLER'S OFFICE.

The new system of municipal accounting was put in operation on January 1, 1902, without confusion or detriment to the conduct of public affairs. The chief features of the new system are:

1. Uniformity in accounting methods.
2. Concentration of bookkeeping in the accounting department.
3. Daily reports and audit.
4. The making of all collections by the City Collector.
5. Monthly reports and balances between the Comptroller and all departments.
6. Monthly report of the Comptroller to the Mayor and Council, showing in detail the revenue and expenses and a general balance sheet comparative with the corresponding month and a period of the previous year.
7. Verification and checking of accounts through audit and inspection bureau.
8. Accrue ment of revenues on the general books of the City where they will always be evident as obligations due the City until paid.

The inauguration of the detailed workings of the new system has progressed without friction, and it is hoped that it will prove an advantage to the City government. It is too early, however, to state the specific benefits to be derived from it.

DEPARTMENT OF ELECTRICITY.

An interesting lesson in municipal ownership is revealed in the report of the Department of Electricity. The duties of this department are strictly of a public service character; they include the operation of the Fire Alarm and Police Telegraph, Gas Lighting and operation of the Municipal Electric Lighting System.

In work of this character a shortage in finances is made more apparent than in almost any other branch of the public service. Notwithstanding the fact that less money was available for street lighting purposes during the past year than in preceding years, the service was extended and better results at a less cost secured, as comparison with previous years will show.

During the year the City maintained upon the streets 25,000 gas lamps, the gas for which during the last half of the year was supplied without charge by the Gas Company, 4,700 gasoline lamps, 652 rented arc lamps, and operated from its own plants 4,305 arc lamps, producing approximately 10,808,000 candle power of light at a total cost of \$762,367. The entire cost of rented lamps of all kinds, including the operation of 4,305 arc lamps of the municipal system, is \$149,862 less than it cost the City in 1895 for lighting, while over three times as much effective light is produced. In this comparison allowance has been made for free gas for six months of 1901.

The operation of the municipal lighting system has been successful, and the decrease in the cost of operation, notwithstanding the increased cost of coal and other supplies, should convince those who may have been skeptical that the best investment the City can make is to increase the number of its municipal plants. During the past year the total cost of operating the plants was \$217,472, while to have rented the lamps from private companies would have cost \$503,000.

Since 1895 the lighting plants have been increased as follows:

During 1895, from 1,108 to 1,116 lamps.

During 1896, from 1,116 to 1,140 lamps.

During 1897, from 1,140 to 1,438 lamps.

During 1898, from 1,438 to 2,263 lamps.

During 1899, from 2,263 to 3,502 lamps.

During 1900, from 3,502 to 4,239 lamps.

During 1901, from 4,239 to 4,305 lamps.

The total cost of increasing the plants from 1,140 lights to 4,305 lights has been \$672,018.27.

The cost per light has been satisfactorily reduced, and at the same time valuable improvements have been made in the equipments. The cost for each year is as follows:

Average cost per lamp for year 1895.....	\$ 95 76
Average cost per lamp for year 1896.....	96 40
Average cost per lamp for year 1897.....	90 65
Average cost per lamp for year 1898.....	65 52
Average cost per lamp for year 1899.....	55 93
Average cost per lamp for year 1900.....	60 98
Average cost per lamp for year 1901.....	57 48

To the cost for the year 1901 has been added a charge of over \$5 per light, which amount has been expended in providing for depreciation and improvements in the machinery and improvements.

The Fire Alarm and Police Telegraph Systems have been considerably extended and the entire office equipped with modern apparatus, placing it in keeping with the service required.

The Electrical Inspection Bureau has required numerous improvements to be made in old installations, as well as new, and the effect has been largely to decrease the loss in fires ascribed to electrical causes. The total loss was \$2,735 from fires of electrical origin, while from lighting the loss was \$29,200.

CIVIL SERVICE.

Records of the proceedings of the Civil Service Commission show that splendid progress has been made in firmly establishing the merit system under the City government. This progress is largely due to the

conscientious work of the commission and to the wholesome effect produced by the decision of the courts, which in every particular have maintained the authority of the commission and the supremacy of the civil service law. The merit system conditions are such now that no one in Chicago, whether spoilsman or reformer, any longer questions the fact that civil service is a fixture, an institution that is here to stay.

DEPARTMENT OF SUPPLIES.

The results in the Department of Supplies emphasize the wisdom of creating it. The business transacted by this department during the year 1901 involved the expenditure of \$649,201.08, an increase of \$41,922.50 over the amount expended during the previous year. There were issued by the Business Agent 18,792 orders for material, supplies and repair work, an increase of 628 over the number issued in the year 1900. The department maintains a warehouse and carries in stock such supplies as are in regular and constant use. Deliveries are made in small lots to the several departments as required. Stationery and office supplies are delivered from stock carried in the City Hall. A new feature of the business of the Department of Supplies is the handling of uniform cloth for policemen and firemen. The material is purchased under contract, and is sold for cash. The effect of this plan is to enable the City's uniformed men to obtain garments of superior quality at low cost.

FIRE DEPARTMENT.

The Fire Department has in the past year added to its glory most signally. The department responded to 8,094 alarms, an increase of 899 over the previous year, and extinguished 6,136 fires, an increase of 633 over the previous year. The total valuation of the property involved was \$133,195,220, which was insured for \$83,079,713, and on which the total fire loss was \$4,296,433. The casualties to citizens at

fires consisted of 103 injured and 45 killed, and the number of persons in peril rescued by members of the department amounted to 184. These figures give but poor conception of the efficiency and heroism displayed throughout the year.

TRACK ELEVATION.

Satisfactory progress has been made in track elevation as shown in the elevation of the joint work between the Chicago and Alton Railroad Company, the Chicago, Madison and Northern Railroad Company, and the Atchison, Topeka and Santa Fe Railway Company, under ordinance passed by the City Council May 22, 1899, from the bridge across the south branch at Bridgeport to a point west of Wallace street, a distance of a little more than 5.25 miles of main track and about 15 miles of other tracks, eliminating 13 grade crossings by subways, at an estimated cost of about \$1,200,000. This work was commenced April 26, 1901, and continued until the work was stopped by the inclemency of the weather about December 19.

The Chicago and Western Indiana Railroad Company have commenced preparation for the elevation of their roadbed and tracks under ordinance of October 23, 1899, by the construction of retaining walls and foundations for the abutment walls of the subways; they have expended about \$325,000 in this work, and as the retaining walls have been constructed along their right of way from Seventy-second street to Forty-ninth street, they will commence early in the spring of 1902 to fill in the embankments and elevate their tracks, and I have no doubt but they will have the tracks between the points mentioned elevated by the fall of 1902. Ordinances have been passed during the year 1901 for the elevation of 137.4 miles of all tracks, eliminating eighty-six grade crossings by subway, at an estimated cost of \$5,050,000. Plans have been submitted and approved for commencing the work of elevation under some of the ordinances passed by the City Council in 1901, and we expect a large amount of work to be done in the elevation of railroad beds and tracks this year.

CORPORATION COUNSEL'S OFFICE.

The office of the Corporation Counsel has during the past year well maintained its high standard of efficiency. The ever increasing volume of business has received adequate attention. In particular matters decisions have been obtained and points won of great advantage to the City both in the administration of its affairs, in the protection of its great property interests and in its dealings with the public service corporations. The departments of the City government have at all times received the benefit of careful legal advice in the conduct of their business. I may enumerate a few of the most important cases upon which the labor of the department has been engaged.

Last summer, in response to a request from the City Council, the Corporation Counsel gave an opinion that the Chicago Telephone Company must strictly live up to the terms of the City ordinance under which it is operated by giving to its customers the most improved service at the fixed rate of \$125, provided by the ordinance, and that the charge for this service of \$175 was an illegal exaction. This ordinance had in this way been violated by the company for years, and large sums of money wrongfully extorted from the public. Suit was brought to test the validity of this opinion. Judge Tuley, in a decision, the result of which in money to the people of Chicago can be estimated only in the hundreds of thousands of dollars, sustained the Corporation Counsel in every respect.

In the Eisendrath and Shirk cases the Supreme Court has sustained the right of the public to important portions of Sangamon street and Michigan avenue against the encroachments of adjoining property owners.

In the Krause case the Law Department has succeeded in obtaining a final decision of the Supreme Court to the effect that all the provisions of the Hyde Park liquor ordinances are to-day in full force. In the more recent Boetter case the Supreme Court has extended the construction and application of the local option ordinances of the same section of the City so as even to go beyond the demands of the people

of Hyde Park. These two decisions have set the high-water mark in the persistent effort of this administration to keep the City's faith with the annexed districts.

The due authority of the Mayor and Chief of Police has been upheld by Judge Tulcy against the attempts of certain subordinate members of the Police Department to form an illegal association which would be destructive of the morale and discipline of the force.

On the other hand, the welfare of the individual police officer has been cared for and safeguarded by the decision of the Appellate Court in the Connell case, holding unlawful those transactions by which the necessities of members of the Police Department and other City employes have been traded upon through the purchase, at usurious rates, of their unearned wages.

Judge Grosscup has recently sustained, in the United States Circuit Court, the position of the Law Department that the City Council has the power to compel the gas companies to furnish gas at reasonable rates.

Determined efforts have been made by the Corporation Counsel to compel the State Board of Equalization to assess the property and franchises of corporations in accordance with law at their fair value. This is a new move which opens up prospects of greater revenue to all the taxing bodies of this county. For many years the attitude of the State Board of Equalization toward the taxation of corporate property and franchises has frustrated every attempt to enforce the law. A suit has been instituted and is now pending in Sangamon County, the result of which will be, it is hoped, the eradication of this great evil.

Another evil which the Law Department deserves great credit for ending is the habit of the Town Collectors to withhold from the City its share of the taxes received by the Town Collectors before their books are turned over to the County Collector. This year the institution of mandamus suits against delinquent Collectors has forced them to pay to the City over \$3,600,000, which otherwise would have been

held back by the Collectors to the latest moment possible. The immediate use of this money by the City in the payment of outstanding interest-bearing tax warrants has enabled it to effect a definite saving.

A great victory has been recently won in the decision of Judge Ball that the City is authorized to fix the rate of fare to be charged by street railway companies within the City limits, and *to regulate the giving of transfers* from one line to another where both lines are owned, leased or operated by the same company, and that the City ordinance providing for transfer tickets between connecting lines operated by the same company applies to the lines of the Chicago Union Traction Company and the Chicago Consolidated Traction Company, which, at the time of the passage of the ordinance, were under a separate ownership and management. The effect of this decision is one of great importance to the residents of the poorer districts of the City reached only by cross-town service. To the people of these districts, whose employment takes them to the center of the city, the saving brought about by this decision will be appreciated every day.

The case of Jackson vs. The City is one of far-reaching importance. In it the question was raised whether the City is liable to the property owners for damages consequent upon the elevation of railroad tracks, brought about by the City in the due exercise of its police power. The original opinion of the Supreme Court in this case holding the City liable was, on a rehearing, completely set aside. The broad doctrine was laid down that where the City causes the destruction of public improvements for the purpose of protecting the health or safety of its citizens, it is not liable to property owners injuriously affected by the construction of the improvement. The claims against the City arising in similar cases amount to over a million dollars. No fear is entertained of any serious modification of the court's recent opinion.

In the case of Farrell vs. The City, lately decided by the Appellate Court, an opinion has been handed down justifying the City in its resistance to the claims of contractors in special assessment improve-

ments who have sought by means of a judgment against the City to make all taxpayers liable for claims properly payable only by the owners of property specially benefited.

A comparison between the number of cases tried and the opinions rendered by the Corporation Counsel's office in the years 1896 and 1901 shows that the work of the department has nearly trebled.

The Special Assessment Law Department has done its full share of work in the past year.

The total number of special assessment cases wherein judgment of confirmation was obtained in 1901 was 766.

These cases represent judgments amounting to about three million dollars.

Four hundred and thirty-four of these cases were contested and 55 special assessment cases were carried to the Supreme Court.

In co-operation with the Comptroller's office, the Special Assessment Law Department has put into collection \$168,000 of special assessments, which in former administrations had been improperly stayed or neglected. The result of this will be the payment of many special assessment bonds and rebates long due property owners.

Along this same line the work of the department deserves special notice for the large number of supplemental assessments made, which will speedily realize nearly a half million dollars to pay outstanding and over-due claims.

The management and operation of the Water Department afford an interesting study to the student of municipal ownership and kindred questions. The collections for the year amounted to \$3,397,928.87, being \$149,517.51 more than was collected in the preceding year. This was accomplished at an expense of \$11,466 less than was expended in the preceding year.

The management of the Engineer's office, the Collector's office, the City Sealer's office, the Street Department and the other branches of the City government have been all that could be desired, considering the financial difficulties under which the year's business has been done.

PUBLIC WORKS DEPARTMENT.

The greatest work now being prosecuted by the City of Chicago is the building of a portion of the intercepting sewer extending along the lake shore, from Thirty-ninth street southerly to about Fifty-first street; thence along Cornell and Stony Island avenues to Seventy-third street. This sewer is a 16 foot sewer at Thirty-ninth street, gradually decreasing to 12 feet at Seventy-third street. The work was undertaken by the City of Chicago by direct labor; that is, the City supervising the work and hiring its own laborers, brick masons, etc., and buying its own material. It was undertaken by direct labor owing to the numerous delays, as well as the complications arising between the City and contractors. In most instances of contract work after the completion of the work large extras were claimed and frequently obtained by the contractors through the medium of the courts. The City at present is completing on an average 60 feet a day, at a cost of about three dollars a foot less than the estimated cost of said work, which was \$46 per lineal foot. The first brick on this work was laid June 15, 1901; work was prosecuted continuously until December 31, 1901, when the weather necessitated shutting down. At the present time work is being carried on from two points. There has been completed 4,011 feet of sewer, and the full section from Thirty-ninth to Sixty-third streets will be completed about December 31, 1902. All employes on this work are drawn through the civil service, and the progress and economy shown as compared with the work formerly done and now being done by contractors is, in my opinion, a demonstration that work properly handled by direct labor by a corporation such as the City of Chicago is to the best interests of the City.

The opening of the Springfield Avenue Pumping Station in the early part of 1901 added a much needed supply of water to the West Division of the City. This and the Central Park Avenue Pumping Stations are the most modern and best equipped pumping stations in the country. There was an average daily increase in the pumping

during the year of 20,276,316 gallons, or a yearly increase of 7,400,-854,972 gallons, and notwithstanding this great increase in pumping there was 2,294 tons less of coal used than in the previous year. The City is now constructing four bridges of the bascule type, at Clybourn place, Division street (canal), Division street (river) and Ninety-fifth street, on a new design made by the City, which will save considerable sums of money in the way of royalties, operation, etc. The Clybourn Place Bridge will be open within a very few weeks, and at the present time has been sufficiently operated to demonstrate that the structure is a complete success.

CARTER H. HARRISON,
Mayor.

CITY EXECUTIVE OFFICERS.

CARTER H. HARRISON,
MAYOR.

JOHN E. OWENS,
CITY ATTORNEY.

C. F. GUNTHER,
CITY TREASURER.

WILLIAM LOEFFLER,
CITY CLERK.

THE CITY COUNCIL.

1902.

1ST WARD.
Michael Kenna.
John J. Coughlin.

2D WARD.
Chas. Ailing.
Thos. J. Dixon.

3D WARD.
Milton J. Foreman.
Wm. S. Jackson.

4TH WARD.
Frank Doubek.
William E. Kent.

5TH WARD.
Edward R. Litzinger.
Robert K. Sloan.

6TH WARD.
Linn H. Young.
William Mavor.

7TH WARD.
F. I. Bennett.
Bernard W. Snow.

8TH WARD.
P. H. Moynihan.
John H. Jones.

9TH WARD.
Nathan T. Brenner.
Henry L. Fick.

10TH WARD.
Charles G. Foucek.
Edward J. Novak.

11TH WARD.
Edward F. Cullerton.
Charles J. Moertel.

12TH WARD.
Michael Zimmer.
V. E. Cerveny.

13TH WARD.
John E. Scully.
Luther P. Friestedt.

14TH WARD.
Frank T. Fowler.
Wm. T. Maypole.

15TH WARD.
Joseph Strauss.
Albert W. Bellfuss.

16TH WARD.
George Leininger.
Stanley H. Kunz.

17TH WARD.
John F. Smulski.
William E. Dever.

18TH WARD.
John J. Brennan.
Michael C. Conlon.

19TH WARD.
James T. Rosch.
John Powers.

20TH WARD.
J. C. Patterson.
Nicholas R. Flinn.

21ST WARD.
Honore Palmer.
John Minwegen.

22D WARD.
John H. Sullivan.
Michael D. Dougherty.

23D WARD.
Charles Werno.
Ernst F. Hermann.

24TH WARD.
William H. Ehemann.
George K. Schmidt.

25TH WARD.
Winfield P. Dunn.
Alfred D. Williston.

26TH WARD.
Freeman K. Blake.
William C. Kuester.

27TH WARD.
Albert F. Keeney.
Hubert W. Butler.

28TH WARD.
Francis D. Connery.
Walter J. Raymer.

29TH WARD.
Frederick A. Hart.
Thomas Carey.

30TH WARD.
Michael McInerney.
John J. Bradley.

31ST WARD.
Wm. M. Butterworth.
Patrick J. O'Connell.

32D WARD.
Henry F. Eldmann.
Joseph Badenoch.

33D WARD.
Nicholas Decker.
Ernest Bihl.

34TH WARD.
Chas. H. Rector.
Jonathan Ruxton.

35TH WARD.
Frank L. Race.
Thomas M. Hunter.



INTERCEPTING SEWERS—DUMPING SURPLUS EARTH, FROM CORNELL AVENUE IN EAST END PARK.





INTERCEPTING SEWERS—DUMPING SURPLUS EARTH, FROM CORNELL AVENUE IN EAST END PARK.

Department of Public Works

CITY OF CHICAGO.

F. W. BLOCKI,

Commissioner.

H. LUTZENKIRCHEN,

Secretary.

HEADS OF BUREAUS.

CITY ENGINEER,	JOHN ERICSON
SUPERINTENDENT BUREAU OF SEWERS,	WM. E. QUINN
SUPERINTENDENT BUREAU OF WATER,	H. O. NOURSE
SUPERINTENDENT BUREAU OF STREETS,	M. J. DOHERTY
SUPERINTENDENT BUREAU OF MAPS AND PLATS,	CHAS. J. BUHMANN
SUPERINTENDENT BUREAU OF STREET AND ALLEY CLEANING,	F. W. SOLON
DEPARTMENT BOOKKEEPER,	HUGO RASPER

PAST COMMISSIONERS OF PUBLIC WORKS.

WATER BOARD.

1851-54—John B. Turner, Prest., Horatio G. Loomis, Alson S. Sherman.
1854-56—James H. Woodworth, Prest., John C. Haines, George W. Dole.
1856-58—George W. Dole, Prest., Orrington Lunt, John C. Haines.
1858-60—George W. Dole, Prest., Orrington Lunt, Noah Sturtevant.
1860-61—Orrington Lunt, Prest., Edward Hamilton, Benjamin Carpenter.

SEWERAGE BOARD.

1855-59—Wm. B. Ogden, Prest., James D. Webster, Sylvester Lind.
1859-61—James D. Webster, Prest., Sylvester Lind, Philip Conley.

Water and Sewerage Boards merged May 6, 1861, into

BOARD OF PUBLIC WORKS.

1861-63—Benjamin Carpenter, Prest., John G. Gindele, Frederick Letz.
1863-65—Francis C. Sherman, Mayor, *ex-officio* member of the Board.
1863-67—John G. Gindele, Prest., Frederick Letz, Orrin J. Rose.
1867-69—Aug. H. Burley, Prest., Wm. H. Carter, John McArthur.
1869-71—John McArthur, Prest., Wm. H. Carter, Redmond Prindiville.
1865-69—Wm. Gooding and Roswell B. Mason, members of the Board in matters pertaining to the cleansing of the river.
1869-71—Wm. Gooding and Edward B. Talcott, members of the Board in matters pertaining to the cleansing of the river.
1871-73—Wm. H. Carter, Prest., Jas. K. Thompson, Redmond Prindiville.
1873-76—Redmond Prindiville, Prest., Louis Wahl, Jas. K. Thompson.

Board of Public Works abolished September 18, 1876, and on the same date there was established by the City Council

THE DEPARTMENT OF PUBLIC WORKS.

1876-78—Monroe Heath, Mayor, Acting Commissioner.
January 7 to May 18, 1879—E. S. Chesbrough.
May 19, 1879, to October 18, 1881—Charles S. Waller.
October 19, 1881, to February 4, 1882—Carter H. Harrison, Mayor, Acting Commissioner.
February 4, 1882, to January 31, 1886—DeWitt C. Cregier.
February 1, 1886, to June 28, 1886—Carter H. Harrison, Mayor, Acting Commissioner.
June 28, 1886, to April 11, 1887—W. H. Purdy.
April 12, 1887, to April 15, 1889—George B. Swift.
April 16, 1889, to April 27, 1891—W. H. Purdy.
April 28, 1891, to December 24, 1892—J. Frank Aldrich.
December 24, 1892, to April 25, 1893—E. Louis Kuhns, Acting Commissioner.
April 25, 1893, to November 21, 1894—Hiram J. Jones.
November 21, 1894, to November 28, 1894—John A. Moody, Acting Commissioner.
November 28, 1894, to April 8, 1895—John McCarthy.
April 8, 1895, to July 20, 1896—William D. Kent.
July 20, 1896, to April 15, 1898—Joseph Downey.
April 15, 1897, to May 21, 1901—L. E. McGann.

ANNUAL REPORT
Commissioner of Public Works
CITY OF CHICAGO
1901

COMMISSIONER'S REPORT.

OFFICE OF THE COMMISSIONER OF PUBLIC WORKS, }
CITY HALL. }

*To the Honorable, the Mayor and Common Council
of the City of Chicago:*

GENTLEMEN—I have the honor to transmit herewith the Twenty-sixth Annual Report of the Department of Public Works for the year ending December 31, 1901, comprising detailed reports of the various Bureaus of said Department.

On account of a new law concerning local improvements, taking effect May 10, 1901, no work under special assessment was done by the Department of Public Works.

SEWERS.

The sewage pumping plant at Pullman was turned over to the City of Chicago on June 5, 1901, since which time it has been operated by the City and the sewage discharged into the Calumet river at Riverdale.

The sewage pumping plants at Sixty-ninth and Peoria streets and at Sixty-ninth and Halsted streets being inadequate to take care of the sewage in said vicinity, on June 1st a pump operated by electricity was installed in the old ejector pit at Sixty-ninth and Halsted streets, which has given a much-needed relief, but is still inadequate for the needs of the district.

MAINTENANCE OF SEWERS.

There was expended during the year 1901 in cleaning 1,503.09 miles of sewers and catch-basins \$94,369.87, at an average cost of \$62.78 per mile.

In the repairs of sewers, manholes and catch basins there was expended \$53,311.83.

\$2,653.41 was expended for bench monuments and the establishment of street grades.

The 1,503.09 miles of sewers in the City were built at a total cost of \$20,513,663.34.

The appropriation for the cleaning of sewers has been inadequate for years, and practically only such cleaning as was made necessary on account of complaints was done. Great relief would be afforded to the City if a sufficient appropriation could be made to have a systematic cleaning of all sewers in the City of Chicago at certain periods.

INTERCEPTING SEWERS.

More or less delay was caused on that portion of the unfinished part of a 20-foot brick tunnel in Thirty-ninth street, known as Section C, on account of the contractor, Jno. P. Agnew, not having perfected his bond until January 23, 1901, when he proceeded to make arrangements for obtaining the necessary land and machinery to begin construction. More or less difficulty having been encountered in installing shield and machinery, the shield was not advanced in the construction of tunnel until September 30, 1901.

Section L, Thirty-ninth Street.—The contract for building this section, which is 470 feet, more or less, in length, was also awarded to Jno. P. Agnew, and the contract was signed July 17, 1901.

On account of the contractor having seriously delayed progress on Sections C and L, I sent a communication to the City Council on November 11, 1901, requesting that the Commissioner of Public Works be authorized to declare the contracts on Sections C and L forfeited, or that action be taken to compel the completion of the work within time as specified in the contracts. The matter was referred by the City Council to the Committee on Finance, where it is at the present time.

Section D, Lawrence Avenue.—Delay having been occasioned the previous year on this section, which finally resulted in the financial embarrassment of the contractors, operations were commenced under the hands of a trustee for the parties interested, about June 15, 1901, and the work progressed in such a slow and unsatisfactory manner that notice was served on all parties concerned that unless work progressed more satisfactorily the contract would be forfeited, and at the same time communicated with the City Council and requested that the Commissioner of Public Works be authorized to declare the contract forfeited and readvertise the work.

On October 21st the City Council declared the contractors in default and directed the Commissioner of Public Works to advertise for bids to complete the work and transmit all bids to the Council for action. Bids were received and transmitted by the Commissioner



18TH STREET TRACK ELEVATION—LOOKING EAST FROM BRIDGE.

THE NEW YORK
PUBLIC
ASTOR
TILDEN

of Public Works to the City Council, as requested, November 18, 1901, with a recommendation that it would be to the advantage of the City to finish completion of contract by day labor.

On December 16, 1901, the Council passed an ordinance authorizing the completion of the work by day labor, instead of contract. Steps were taken at once for the carrying out of this order, when at the Council meeting of December 23, 1901, the City Clerk presented a notice of intention by Joseph Hanreddy, one of the bidders for the completion of said work, to file a bill of complaint, asking an order of court to restrain the City from doing this work by day labor. The bill having been filed and the matter being in court, no further action will be taken until the courts decide the matter.

At or about the time the contractors on Section C, intercepting sewers, were asking for a large increase in their contract price for alleged change in the structure, Mayor Harrison sent a communication to the City Council calling attention to the fact that in most of the large contracts which had been entered into by the City for the construction of heavy underground work for a period of several years, the contractors had made claims for large extras, which amounted in some cases from 100 per cent to 280 per cent, in addition to the original contract price, and had succeeded in obtaining these additions by litigation in case they were not otherwise allowed, and urging the City Council to authorize the construction of the South side intercepting sewer from Thirty-ninth street south by City labor.

In response to said communication of his Honor, the Mayor, the City Council on January 3, 1900, passed an ordinance authorizing the construction of Sections G and H of the intercepting sewer system by day labor. The work on these sections was not commenced during the year 1900, because of delays on Section C, to which this work is tributary.

On or about April 1, 1901, work was commenced on Section G, and proposals were received for machinery to be used in construction; but as prices bid were very high, the City proceeded to build one pile driver and three swinging derricks, which was done at a saving of over \$5,000 as compared with proposals received.

There was constructed 2,942 feet of this 16-foot sewer during the year 1901, at a cost of \$43.38 per lineal foot, which cost includes a proportionate cost of plant and also engineering and inspection expense.

Work was commenced on Section G3 in August, 1901. Of this sewer, which is 14.25 feet in diameter, there was completed at the end of the year 144 lineal feet.

Owing to more preliminary work being necessary than in Section G, such as replacing the sewer in roadway by two pipe sewers, one inside each curb line, and additional gas and water pipes being laid and house services reconnected to all three classes of pipes, so that the roadway is free for the operation of machinery in driving sheeting and in excavating, there is not sufficient of this sewer completed to allow a statement of the cost per foot to be made; but as the construction of this section is practically about the same as Section G, there is every reason to believe that, after it has progressed far enough, the price per lineal foot will not exceed the estimated cost on Section G.

Section M.—This work is the breakwater and protection pier for the land to be made in Lake Michigan on the line of Thirty-ninth street produced for the pumping station to be operated in connection with the Thirty-ninth street conduit. Part of the work on this section was let in September, and work continued until bad weather set in.

As regards all construction work of this class, I would recommend that, whenever it is practicable, the work be done by direct labor, and this in view of the fact that the character and quality of the work is excellent; that there are no bills for extras nor is there any litigation; the Department is in direct control of the work and is not hampered and delayed by refusal to carry out orders as in case of contracts, and plans may be readily changed as new conditions develop in the progress of the work, which does not entail bills of extras or litigation.

In fact, too much cannot be said commendatory of the day labor system. The results obtained in this Department, where this system is in operation, proves its value; and under rigid Civil Service with merit, the standard of value among men, and political influence eliminated, as it now is in this Department, the benefits derived from the day labor system by the people of Chicago will force even its enemies to endorse it.

BUREAU OF WATER.

With an increased revenue during the year of \$149,517.51 the expenses of collection have been decreased as compared with last year in the sum of \$11,466, and this in view of the fact that the force of inspectors has been reduced by six.

As a result of a house-to-house examination in the Seventh, Eighth, Ninth, Tenth, Sixteenth, Seventeenth, Eighteenth, Twentieth, Twenty-first, Twenty-second, Twenty-third, and parts of the Second,

Third and Fifteenth wards the general assessment account has been increased in the sum of \$70,801.90.

During the year there were 332 water meters installed, making a total of 6,728 meters now in the service.

On account of the redistricting of the City by wards, a new set of ward ledgers had to be procured.

SHOWING NET COLLECTIONS FROM ALL SOURCES FOR THE
YEAR 1901, AS COMPARED WITH 1900.

SOURCES.	1900.	1901.	Increase.	Decrease.	Net Increase.
Assessed rates.....	\$2,054,634.85	\$2,140,255.08	\$ 94,620.23		
Meter rates.....	1,143,533.15	1,197,405.06	53,871.91		
Permit Division.....	18,812.91	19,763.83	950.92		
Assessor's miscellaneous.	12,876.21	15,377.30	2,501.09		
Water Mechanical Division.....	18,554.24	16,137.60		\$2,426.64	
Total.....	\$3,248,411.36	\$3,397,928.87	\$151,944.15	\$2,426.64	\$149,517.51

PUMPING STATIONS.

There are now supplying the City with water ten pumping stations, which, with the exception of one, receive their supply of lake water from five cribs, which water is conveyed from said cribs by 37.7 miles of tunnels of various sizes.

The number of pumping engines available is thirty-six, having a total capacity of 529,000,000 gallons per day of twenty-four hours.

The total amount of water pumped during the year was 125,298,115,196 gallons, or a daily average of about 343,282,508 gallons, being a daily average increase over that of 1900 of about 20,276,316 gallons, or a total increase of 7,400,854,972 gallons; but, notwithstanding this increase in pumpage, the coal consumed was about 2,294 tons less than the amount used in 1900.

A new artesian well was sunk at the Norwood Park station, and a deep well with a daily capacity of 350,000 gallons was installed.

There was erected at the Washington Heights station a steel water tower and tank, with a capacity of 128,500 gallons.

At the Chicago avenue station a new boiler plant was practically completed and is in successful operation.

WATER PIPE EXTENSION.

One hundred and six thousand eight hundred and ninety lineal feet of water pipe, ranging in size from 4 to 16 inches in diameter, was laid.

The following table shows location of water mains lowered to prevent freezing and in subways built in connection with elevation of railroad tracks. In addition thereto considerable pipe was taken up and replaced by mains of larger size. This work shows in tables of "Pipe Laid" and of "Pipe Taken Up and Abandoned."

WATER MAINS LOWERED.

STREET.	FROM	TO	Length of Pipe in feet.	Diam. in inches.
Howard court.....	280 ft. S. of Ninety-seventh.....	Southward.....	300	6
Longwood avenue....	150 ft. S. of Ninety-fifth.....	Southward.....	268	6
Longwood avenue....	Ninety-seventh.....	Southward.....	180	6
Longwood avenue....	Ninety-ninth.....	Northward.....	928	6
Longwood avenue....	105th street.....	107th.....	1,172	6
Ninety-ninth.....	Howard court.....	Westward.....	300	6
103d.....	Longwood avenue...	Westward.....	350	8
Throop.....	193 ft. N. of Archer avenue.....	Northward.....	360	36
Throop.....	200 ft. S. of Twenty-second.....	Southward.....	244	36
Tremont.....	Normal avenue....	Eastward.....	586	
Total.....			4,688	

During the year 286 hydrants and 327 valves were placed. There are now in use a total of 1,890 miles of pipe, 19,324 hydrants, and 15,147 valves.

The large apparent per capita consumption of water in the City of Chicago is undoubtedly caused by numerous leaks in both water mains and service pipes in different sections of the city, and owing to the small appropriation for maintenance for water pipe extension, it has been impossible to make necessary investigation and also take up and replace water mains laid twenty and thirty years ago.

TRACK ELEVATION.

In the joint work between the Chicago & Alton Railroad, the Chicago, Madison & Northern Railroad, and the Atchison, Topeka &



18TH STREET TRACK ELEVATION—30-TON PLATE GIRDER AT LOCK STREET.



Santa Fe Railway Companies, there were elevated 5.25 miles of main track and 15 miles of other tracks, eliminating thirteen grade crossings by subways. The Chicago & Western Indiana Railroad Company have commenced preparation for the elevation of their road-bed and tracks by the construction of retaining walls and foundations for the abutment walls of the subways, from Seventy-second to Forty-ninth streets.

There has been elevated under ordinances passed 306.96 miles of railroad tracks and 377 grade crossings eliminated. Ordinances have been passed and accepted by the railroad companies, under which no work has yet been done, for the elevation of 269.04 miles, eliminating 217 grade crossings. When all of said work is finally completed under ordinances passed there will be a grand total of 574.0 miles of railroad tracks elevated, eliminating 554 grade crossings.

It may be said that track elevation has proved a boon to the citizens of this community, as well as a saving to the railroad companies, inasmuch as it is a protection to life and limb against accident and a saving of many thousands of dollars by doing away with delays and accidents at street grade crossings.

STREETS.

Permits were issued as follows for openings in pavements for the purpose of inserting or repairing underground work:

Permits were issued to open improved streets as follows:

People's Gas Light & Coke Company.....	16,211
Chicago Edison Company.....	513
Chicago Telephone Company.....	239
Ogden Gas Company	146
Various corporations	32
City Departments.....	1,306
Plumbers and sewer builders.....	1,210
Manure vaults, improved alleys.....	194

Manure vaults, unimproved alleys.....	24
Unimproved street opening permits.....	8,693
Use of street permits.....	591
Inspection fee permits.....	42
Miscellaneous permits.....	2,150

The frequent disturbance of the pavements of this City for the purpose of making repairs and inserting new work requires that a system of conduits or subways be built for the accommodation of all pipes, wires, etc., thereby insuring more permanent pavements.

Only \$11,700 was available for improving and maintaining the various parks under the control of this department.

Five hundred and forty-six permits to move buildings were granted during the year, the total receipts being \$1,268.

GARBAGE.

One million three hundred and thirty-three thousand nine hundred and twenty cubic yards of garbage were removed, at a cost of \$490,302.39. The cost of the removal of garbage is largely increased and will continue to increase owing to the fact that the City is compelled to haul a portion of its garbage from eight to ten miles, to wherever a dumping place is available.

February 18, 1901, the City Council passed an ordinance providing for the use of metal receptacles for garbage and ashes and the abolishment of wooden boxes. In order to make the ordinance thoroughly effective a daily service should be given. This the Department was unable to do, except in certain portions of the City, owing to lack of sufficient appropriation.

As the dumping grounds available for the dumping of garbage throughout the City are almost exhausted, arrangements will have to be made for the erection of such plants as will destroy all the garbage wastes, and this the City will be unable to do until more funds are provided. These garbage reduction or destruction plants, I believe, should be located along the banks of the Chicago River, so that garbage may, if necessary, be conveyed to the different plants in scows.

STREET AND ALLEY CLEANING.

Eighteen thousand nine hundred and twenty-one and three-fourths miles of streets and alleys were cleaned, 3,237,419 lineal feet of weeds cut and 357,244 inlets to catch-basins opened and cleaned, at an expense of \$370,200.84.

Thirty-four thousand and forty-two loads of snow were removed from the down-town district at a cost of \$40,000.

REPAIRS ON IMPROVED STREETS.

There was expended for repairs on improved streets \$78,344.94; on unimproved streets and alleys, \$44,088.87, and on renewal of intersections and general repairs on sidewalks \$52,725.27.

With the exception of the main thoroughfares leading into the center of the City, under the amount of money available, it has been impossible to give the streets and alleys of the City but two thorough

cleanings in the year—one in the spring of the year, and the other in the fall. The appropriation for this purpose should be at least double in order to give the City such service as it should have.

BRIDGES AND VIADUCTS.

A new bascule bridge over the North branch at Clybourn place was practically completed, with the exception of the erection of the machinery and floor system to complete the bridge.

The substructures for a new bridge over the Calumet river at Ninety fifth street, and for one over the North branch at East Division street, were practically completed for the superstructures and the bridges will be completed during the coming year. Plans were also prepared for a new bridge over the North branch of the Chicago river at West Division street.

Contracts for new bridges are being entered into and the construction is being commenced as rapidly as money is available.

Considering the money available for repairs on bridges and viaducts, good results were shown.

The Sanitary District of Chicago has in course of construction new bridges at Randolph street, Harrison street, Canal street, Main street, and at Ashland avenue over the West fork.

RIVERS AND HARBORS.

During the year the following permits have been issued by this division:

CHICAGO RIVER.

5 permits construction of 2,575.89 lineal feet of dock.....	no fees
44 permits rebuilding 9,949 lineal feet of dock	\$2,485.90 fees
12 permits repairing 2,167 lineal feet of dock.....	270.87 "

CALUMET RIVER.

2 permits construction of 2,050 lineal feet of dock.....	\$ 74.50 fees
6 permits rebuilding 2,026.2 lineal feet of dock.....	506.55 "

LAKE MICHIGAN.

3 permits construction of 1,194 lineal feet of dock or bulkhead \$	73.50 fees
6 permits repairing 2,275 lineal feet of dock.....	284.38 "
11 miscellaneous permits.....	15.00 "

SUMMARY OF DOCK WORK.

During the year the following dock work was done under permits from the City:

10 permits 5,819.89 feet construction	\$ 148.00 fees
50 permits 11,975.2 feet rebuilding.....	2,991.55 "
18 permits 4,442 feet repairing.....	555.25 "
11 miscellaneous permits.....	15.00 "

Totals, 89 permits 22,287 feet.....\$3,709.80 fees

DEPARTMENT OF PUBLIC WORKS.

DREDGING DURING THE YEAR.

CHICAGO RIVER AND LAKE MICHIGAN.

Private work, twenty-nine permits, removing 128,000 cubic yards,
fees.....\$512.00
Sanitary District, nineteen permits, removing 600,000 cubic yards,
no fee.
United States, five permits, removing 668,820 cubic yards, at
\$48,652.52, no fee.
South Park, one permit, no fee.

CALUMET RIVER AND LAKE CALUMET.

Private work, twenty permits, removing 176,000 cubic yards, fees....\$704.00
Calumet Lake, one permit, removing 24,000 cubic yards, no fee.

In addition to the foregoing dredging, 6,927 cubic yards of sewage
deposit was removed from Slip "A" under contract.

Respectfully submitted,

F. W. BLOCKI,
Commissioner of Public Works.

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WATER TANK
WASHINGTON HEIGHTS PUMPING STATION

ANNUAL REPORT

Bureau of Engineering

CITY OF CHICAGO

1901

JOHN ERICSON
City Engineer

BRIDGES AND VIADUCTS.

Bridge operation and repairs.....	\$114,850.28	
Bridge tenders' salaries.....	86,408.83	
Viaduct repairs—Amount to be reimbursed to City by rail- road companies.....	10,887.50	
Bridge construction.....	288,347.02	
Total.....		\$499,993.63

INSPECTIONS.

Illinois telephone and telegraph companies.....	\$1,285.35	
Elevated railroad companies.....	417.50	
Sanitary District.....	200.00	
Total.....		\$1,902.85

LAND TUNNELS.

Section No. 2.....		\$5.75
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WATER WORKS SHOPS.

Labor and material.....	\$54,247.80	
Decrease in stock.....	3,221.17	
Total.....		\$57,468.97

WATER PIPE EXTENSION.

Construction—Labor and material.....	\$135,582.02	
“ Work done on special deposit accounts.....	27,775.23	
Repairs and maintenance—Labor and material.....	275,742.30	
Total.....		\$439,099.55

PUMPING STATION BATH HOUSES.

Fourteenth street bath.....	\$1,012.00	
Twenty-second street bath.....	927.58	
Total.....		\$1,939.58

PUMPING STATIONS.

	Operation	Repairs, Stores, etc.	Construction.
North pumping station.....	\$119,235.81	\$19,494.33	\$25,419.76
Fourteenth street pumping station...	112,747.49	12,449.83	8,367.91
Harrison street pumping station.....	56,818.73	7,007.01	2,157.28
West pumping station.....	100,554.91*	10,051.11	
Sixty-eighth street pumping station..	102,503.48	18,090.28	
Lake View pumping station.....	68,309.83	13,670.43	
Springfield avenue pumping station..	50,070.68	4,827.13	46,221.12
Central Park avenue pumping station.	62,100.79	4,537.91	33,346.25
Washington Heights pumping station.	8,715.18	1,762.73	10,214.84
Norwood Park pumping station.....	5,098.51	376.22	6,759.56
Total.....	\$686,154.91	\$92,268.99	\$132,486.72

(*) This amount includes fuel for pipe yards, heating and power for the Water Works and Police Department repair shops.

ENGINEER'S REPORT.

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SUMMARY.

Total operation.....	\$686,154.91	
" repairs.....	92,266.98	
" construction.....	182,486.72	
Grand Total.....		\$910,908.61

CRIBS.

	Operation.	Repairs.	Construction.
Two-mile crib.....	\$20,745.54	\$599 50	
Four-mile crib.....	6,117.57	100.42	
Hyde Park crib.....	6,216.03	681.05	
Lake View crib.....	6,663.21	652.76	
Carter H. Harrison crib.....	6,673.76	870.81	\$3,075 51
Totals.....	\$46,416.11	\$2,904 13	\$3,075.51

SUMMARY.

Crib operation.....	\$46,416.11	
" repairs.....	2,904.13	
" construction.....	3,075.51	
Grand total.....		\$52,395.75

RECAPITULATION.

City Engineer's office.....	\$ 22,084.87	
Harbor division.....	30,447.42	
Bridges and viaducts.....	499,993.63	
Inspections.....	1,002.85	
Land tunnels.....	5.75	
Water works shops.....	57,468.97	
Water pipe extension.....	439,000.55	
Bath houses.....	1,939.54	
Pumping stations.....	910,909.61	
Cribs.....	52,395.75	
By amounts unexpended.....	625,778.33	
Total.....		*\$2,642,065.31
Decrease water works shops stock account.....	\$ 3,321.17	
Water works shops and charges against pumping stations, cribs and water pipe extension.....	34,859 77	
Council orders.....	44 57	\$38,125 51
		\$2,603,039.80

*In this amount are included miscellaneous charges not deducted from the general appropriation, added however to the cost of maintenance of the various divisions and now deducted to balance accounts.

From the above statement it will be seen that considerable sums of money remained unexpended at the end of the year, both of the appropriation from the General Fund and the appropriation from the Water Fund. This result was obtained by exercising the strictest economy and by postponing many important improvements, as funds, although appropriated, were not available.

WATER SUPPLY.

PUMPING STATIONS.

The constantly increasing demand for a greater supply of water keeps the Bureau busy planning for additions to the system at all times.

By examining the following table of statistics it will be seen that the yearly increase in population of the City is at least 75,000, which at the present rate of per capita consumption is equivalent to an average increase in the water supply at the rate of about 12,000,000 gallons daily for each year.

YEAR.	Population.	Yearly Increase.	Average Daily Pumpage.	Average Daily Pumpage Per Capita.
1890	1,208,669	.....	152,372,388	126
1891	1,323,339	114,670	174,114,254	131.5
1892	1,438,010	114,671	194,086,000	135
1893	1,502,868	64,858	234,434,176	157.3
1894	1,567,727	64,859	238,521,280	152.1
1895	1,592,183	24,456	251,839,816	158.1
1896	1,616,635	24,448	254,208,560	157.3
1897	1,734,111	117,476	265,462,530	153
1898	1,851,588	117,477	273,055,816	147.4
1899	1,929,641	77,853	300,614,394	155.7
1900	2,007,696	77,854	322,599,630	160.6
1901	2,082,695	75,000*	343,282,508	164.8

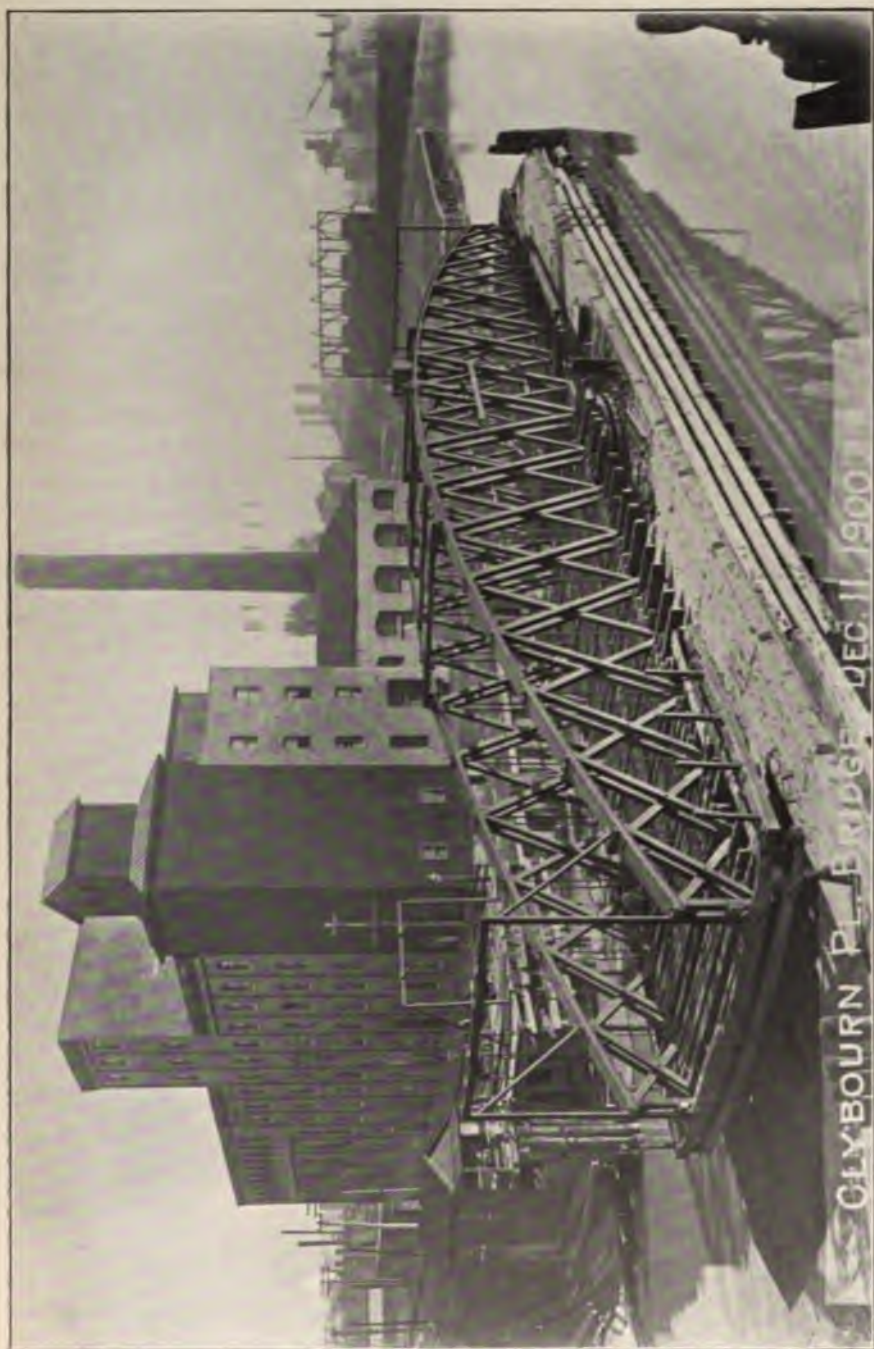
The increase in pumpage in 1901 over 1900 amounts to 7,400,854,972 gallons, or an average increase of 20,276,316 gallons per day. Notwithstanding this great increase in pumpage, there were 2,294 tons less coal burned, showing great economy in fuel. The average cost of coal per ton was, however, \$3.67 against \$3.23 for 1900.

In making a comparison between the expenses for operation, maintenance, etc., of the pumping stations for the year 1901 and the previous year, it must be borne in mind that the large Central Park

* Estimated.

THE
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CLYBOURN PLACE BRIDGE DEC. 11, 1900

Avenue Station was operated only part of the year 1900, and the Springfield Avenue Station with its additional force of men was not put into operation until January, 1901. The result of starting these new stations was a diminution of both pumpage and pressures at the old stations, the pressures being more equally distributed over the City, as it was no longer a necessity to force the water such long distances as before the new stations were put into operation, and the quantity from the old stations could therefore also be reduced. This decreased pumpage and the lower heads at some of the stations, while the salaries and other charges remained the same, would apparently tend to slightly increase the cost of pumpage, but if the cost is reduced to the basis of the year 1900, head and pumpage, the expenses of operation for the year 1901 will show a considerable decrease.

The question of waste of water was given considerable attention during the year, and the results of the investigations were embodied in a special report of May 9, 1901. It has been stated that the enormous water waste found to exist is necessary for the flushing of sewers. While it undoubtedly dilutes the sewage, there can be no effective flushing, as the total pumpage of the City corresponds to a rainfall of only about 1.8 inch per day, or 1.192 inch per hour.

The question of an increased water supply for the southern part of the City south of Eighty-seventh street was also made the subject of a special report during the year. The importance of the commencement of this improvement is emphasized by the Macedonian cry that has been heard from this district during the past year.

BRIDGES AND VIADUCTS.

Considering the small appropriation available for the repairs of bridges and viaducts, good work has been done.

The construction of the new bridges at Ninety-fifth street and East Division street suffered annoying delays, partly by the encountering of treacherous subsoil and partly by the bad condition of the water pipe tunnel at East Division street. At the latter place it became necessary for the City Engineer to take personal charge of the work, and for six weeks I was daily on the work until the difficulties encountered were successfully overcome.

WATER PIPE EXTENSION.

The management of this Division of the Bureau has been economical and efficient. A number of much needed extensions of mains had, however, to be postponed, owing to shortage of funds.

HARBOR.

Owing to the obstructions caused by the transportation tunnels across the Chicago river, the vessels entering this stream decreased 5.27 per cent, while the Calumet river, with its deep and wide harbor, shows an increase of 9.55 per cent. These figures are a strong argument in support of the removal or lowering of the tunnels and the construction of bascule bridges in place of the obstructing center pier bridges.

For further details of the work performed under the supervision of this Bureau see the following descriptions under the various Division headings:

DIVISION OF WATER SUPPLY.

PUMPING STATIONS.

MR. J. H. SPENGLER, Assistant City Engineer.

FOURTEENTH STREET PUMPING STATION.

MR. HUGH MARTIN, Engineer in Charge.

The following represents the principal repairs made on engines, boilers, buildings and grounds during the year:

ENGINE No. 1.—Two new steam traps were placed and all flanges on the 8-inch main steam pipe were packed. A new 45-degree ell was put on the 10-inch pipe leading from the condenser pump. During August the connection between the valve chamber and the plunger barrel was found to be cracked, and cast steel bands, braces and split sleeve calked with lead were used to repair this break.

ENGINE No. 2.—A new 6-inch throttle valve was placed on the main steam supply pipe. A new 6-inch valve was also put on the main injection pipe.

ENGINE No. 3.—Two new and heavier wrought iron bands were put on the old crack in the pump chamber and forty-eight bolts were placed in the flanges of this cylinder. A 6-inch separator was placed on the main steam supply pipe.

ENGINE No. 4.—Early in the year the piston head was found loose. This was remedied by the contractors. The final painting was also completed. New cast iron drips were placed on the bed plates and

sheet iron bowls on piston rods to catch the waste oil and return same to filter. A new disc was placed in the 48-inch suction valve to replace the one that was found cracked a short time previously. The two years' guarantee having expired, a final voucher in favor of the Lake Erie Engineering Company, Buffalo, N. Y., the contractors for this engine, was issued June 6, 1901.

The nine return tubular boilers received certain repairs as follows: A number of new braces were put in the steam domes, girth seams were re-riveted and calked, and the 4-inch tubes were expanded and calked. Thirty-six new tubes and a large number of new drum brick were put in the Hawley furnaces under these boilers. All the feed water pipes between these boilers and their purifiers were renewed and new asbestos-packed cocks placed on same, all new piping being covered with non-conducting material.

The following repairs were made to the three water tube boilers: Twenty-five new handhole plates and fifty handhole plate nuts were placed. All the feed water pipes between the purifiers and the boilers were replaced and covered with non-conducting material. Fifty new grate bars were put in the Roney furnaces and two new brackets were placed on the line shaft. The stoker engines of the Roney furnaces were also supplied with new piston rods, rings, crank shafts and brasses. The piston rods, valve seats, valves and sleeves on the Blake boiler feed pumps were renewed. New steam valve stems, water valve seats and valves were placed on the Knowles bilge pump in the basement. Repairs to the buildings included the renewing and repairing of all flashing, gutters and down spouts for all roofs and the soldering of leaky joints on the boiler-room roof. The other repairs involved miscellaneous painting, glazing and carpentry work necessary to keep the station in proper condition.

The team scale in the coal-room was reset and the car scale in the boiler-room repaired. A new brick sewer catch basin was built in the alley west of the boiler-room.

Extensive repairs to the return tubular boilers, involving considerable expense, will have to be made during the coming year in order to keep them in serviceable condition. These repairs involve the re-setting of same, the placing of new back sheets on the bottom, new mud drums, new feed pipes and fittings of larger diameter, and the remodeling of the steam headers.

Fifty-eight thousand six hundred and three baths were given during the year in the public bath operated at this station under supervision of this Division.

SIXTY-EGGHTH STREET PUMPING STATION.

MR. THOMAS KEYNOLDS, Engineer in Charge.

The six horizontal engines in this station were kept in practically continuous operation throughout the year. On account of this and the high suction lift, extensive repairs will have to be made during the coming year. Because of the rapidly increasing demands on this station and the consequent necessity of keeping the entire plant in operation almost continuously, it is absolutely necessary that an additional engine be installed at once in order to provide sufficient reserve machinery.

The main repairs made during the year were as follows:

ENGINE No. 1.—This engine received a general overhauling. One new high-pressure piston-rod, straps and new high-pressure beam pins were placed. The high-pressure guides were trued up. A new set of metallic packing was furnished for the above rod and new lagging provided. In the pump ends new rubber valves were placed and the air pumps were overhauled.

ENGINE No. 2.—New bucket valves were placed in the air pumps and new rubber valves in the water ends. New gibs were also furnished.

ENGINE No. 3.—A new brass was placed on the high-pressure beam end. Four new steel pins were put in the plungers and four new steel bushings in the end of the air pump connecting rod. The rods of the boiler feed pumps were furnished with new oil pipes. The air pumps were supplied with new bucket valves and the water ends with new rubber valves.

ENGINE No. 4.—New valves and springs were set in the engine, and the vacuum pump provided with a new steam chest.

ENGINE No. 5.—New beam pins were supplied and new lagging placed on the steam cylinders. The water ends were overhauled, new rubber valves being placed. The air pumps also received a thorough overhauling.

ENGINE No. 6.—Eight new steel blocks were placed and two new steel keys put in beams. Two new steel bushings were placed in the ends of the pump rods. New oil pipes were also provided for the rods of the boiler feed pumps. A new piston was placed in the electric light engine. A new exhaust head was attached to the operating engine in the machine shop.

BOILERS AND FURNACES.—Only the usual ordinary repairs to furnaces were made. The boiler fronts and steam pipes were painted.

BUILDINGS AND GROUNDS.—The new offices in the north end of the engine room had thin partitions raised three feet and covered over with matched ceiling. New storm windows and sheds for entrances were placed. A new 75 foot flag pole was raised on the lawn near the northwest corner of the building.

Extensive repairs will have to be made during the coming year. Three of the engines need a thorough overhauling and five engines need painting. New flues will have to be placed in twelve boilers. The skeleton arches on boilers 1, 2, 3 and 4 are all burned and broken and it will be necessary to take down considerable brickwork to repair them. Certain large valves on the main steam pipes are in bad condition and need to be replaced. Boiler No. 11 will have to be provided with a new bottom sheet.

The old Town of Lake building, erected in 1873 and at present being used as a machine shop, is in a bad state of decay. As it is not used for pumping purposes and is entirely too large for its present purpose, I would recommend that it be torn down and a small addition built to the pumping station to serve as a machine and blacksmith shop.

WEST PUMPING STATION.

MR. MARTIN MADONEY, Engineer in Charge.

The machinery at this station was kept in continuous operation throughout the year, excepting engine No. 25, which was closed down during November and December. During this time it was given a general overhauling. The 48 inch steam cylinder was rebored, and a new piston rod, bull ring and packing rings were put in place. Four new 8 inch double beat valves were put in the south pumps. Only the usual repairs required through continuous operation were made to the other engines.

New fire fronts, fire doors and ashpit doors were placed on the six boilers in the south half of the boiler-room.

A new plank roadway at the entrance to the north end of the coal-room was laid. The roof of the boiler-room was painted. The south half of the lawn was graded and sodded. A new fifteen-ton wagon scale was erected.

Extensive repairs will have to be made early in 1902 to engines Nos. 26, 50 and 51, as they are rapidly deteriorating, having received no general overhauling for a number of years.

My previous recommendations as to the necessity of new inlet suction pipes and valves for the pump chambers and necessary repairs to valves and walls of the wet well have not yet been carried out.

Now that the new pumping stations are completed and the machinery in condition to operate at its maximum capacity, these very urgent repairs will be made in the early spring.

The public bath operated in connection with this station furnished baths to 22,164 people during the year.

NORTH PUMPING STATION.

MR. W. J. BURNS, Engineer in Charge.

Early in the year the two Gaskill engines were thoroughly overhauled, involving new pins in the high-pressure beams and many new brasses. All worn-out parts were renewed. In the old iron flue heater on the Gaskill No. 2 there was placed a new copper coil. Both engines were painted and varnished. Since that time the engines have been practically in continuous operation and show a decided increase in duty.

ENGINE No. 53.—A new 44-inch cylinder head was placed, the old one having been cracked for some time. The air pump was taken out and repaired. Certain leaks in the condenser were repaired and all iron connections renewed.

ENGINE No. 57.—Only a few minor repairs were made.

ENGINE No. 67.—Late in July this engine was closed for about two weeks for the purpose of temporarily connecting the discharge pipes from the air pumps with the wet well while a new sewer was being constructed through the new boiler-room. All brasses were refitted and minor worn-out parts renewed.

ENGINE No. 72.—During the month of June this engine was out of service for ten days, during which time the well was emptied, the pump ends examined, and new valves and springs put in both the suction and discharge chambers. All brasses were refitted and new packing placed throughout the engine.

All pipes in the basement were examined, and, wherever necessary, hangers placed. The 6-inch steam pipe heretofore leading from the header of boilers Nos. 1 and 2 to the purifiers was changed so as to make a direct connection between these boilers and the purifiers. On account of the removal of the old marine boilers, a direct connection between the Holly boilers and engine No. 67, by means of an 8-inch steam pipe, was made.

Repairs to the Holly boilers included the replacing of a number of old rivets with new and larger rivets. The usual repairs to the brickwork of the furnaces were made. A new three-inch pine floor was laid in the coal-room adjacent to the Holly boiler-room.

The grounds in the rear of the station were plowed, spaded and planted with grass seed, all old appliances, material, etc., used previously in connection with miscellaneous construction work having been removed.

Preparations are being made to make necessary connections between the new return tubular boilers and the Gaskill engines. With this change, steam can be supplied from the new boiler plant to all the engines in the station. The Holly boiler-room can thus be shut down entirely and a large saving in fuel and repairs be effected.

REMODELING NORTH PUMPING STATION.—Satisfactory progress was made in connection with the installation of the new boiler plant, coal conveyor and appurtenances, contracts for this work having been let in July, 1899.

The first battery of boilers was put into operation August 16, 1900, and the second on July 8, 1901. The use of these boilers has effected a large saving in fuel.

The work done during the year was in detail as follows:

The City force built the concrete boiler foundations in rooms 2 and 3, completed a new sewer system, laid a concrete floor for room 3, and built rubble stone area wall foundations enclosing both large doorways. The concrete box sewer in the rear of the second battery of boilers was built in connection with the concrete floor, and the concrete floor was continued through first battery in room 4.

Two large openings in the north face of the smokestack were filled with rubble stone masonry. These openings were for breeching and a receptacle for soot from the old battery of boilers in room 2.

In April the Water Pipe Extension Division continued the 4-inch water supply pipe across room 3 back of the second battery of new boilers and built a basin for a standard 4-inch gate valve.

CONGRESS CONSTRUCTION COMPANY.—The masonry of the new east wall (rooms 2 and 3) was completed, and a 2-foot brick wall, 50 feet long and 6 feet high, built on the south wall of Holly room to complete north wall of boiler-room 2. These contractors also performed the carpenter work on windows and doors, including the wooden frames for skylights.

A part of this contract was the removal of the walls and roof of the old structure prior to the erection of the new work. The part removed this year was the south and east walls and roof of old room 2. The work under this contract was completed.

THE McEWEN MANUFACTURING COMPANY.—This firm furnished the cut stone and put same in place for rooms 2 and 3, also veneered

south wall of Holly room east of boiler-room 2 with cut stone, scraped joints and washed and pointed walls. This contract is completed.

JOHN MOHR & SONS.- The work performed by these contractors during the year includes the setting of the second and third batteries of new boilers and the placing and connecting of the necessary breeching.

The dismantling and removing of the old boilers in room 2 was done in August. The erection of the coal storage bins in rooms 2, 3 and 4 is practically completed.

The conveyor subway was continued across room 3, with the exception of a 6-inch layer of concrete to be laid on the subway floor. The side walls for the balance of the subway were also completed. The floor of the conveyor tunnel in room 2 remains to be completed.

Concrete foundations for eight coal bunker columns (rooms 2 and 3) were built and provided with anchor bolts and cap stones. A brick foundation with rubble stone base and stone caps was built for the two feed water heaters. On top of each of the new boilers in room 3 was built a brick pier to support the steam drum equipped with convex rollers on which the drum rests.

Two boiler feed pumps, two feed water heaters, one purifier tank, two feed water measuring tanks and all boiler fittings and steam and water pipe connections for room 3 were furnished and put in place.

THE PITTSBURGH BRIDGE COMPANY completed their contract. This involved the furnishing and placing of the skeleton work supporting the concrete roof of the remodeled boiler-room, consisting of nine trusses with their connecting purlins, laterals, etc., and fourteen jack rafters for the hip roof at the north and south ends. Two small trusses attached to and standing out horizontally from the south wall of the addition, with 6-inch cast columns supporting their outer ends, were erected over the coal crusher pit to form with the concrete roof laid over their connecting purlins a shelter for teams unloading into the pit.

The iron work for skylights and special framing around smoke-stack were included in this contract.

THE SYKES ROOFING COMPANY, contractors for the concrete roof, completed that part extending over rooms 3 and 4 during March and April. The contractors first put in a false wooden roof supported by the iron skeleton work as a foundation on which to lay the concrete and support it until set. The false work was not taken down until the following December, when a portion of it was relaid for the construction of the roof over room 2. The roof over room 2 has yet to be done.

The cornice, gutter and tin roof over rooms 3 and 4 were completed. The skylights and side windows were glazed with ribbed glass and each skylight provided with two galvanized iron ventilators and trimmings.

Down spouts have been put up at three different points and the entire roof over these two rooms given a coat of mineral paint. The roof over coal crusher pit was treated similar to rooms 3 and 4.

All boilers, heaters, purifiers, steam pipes, uptakes, and breeching so far installed were covered with non-conducting material.

Mr. W. D. Barber, Assistant Engineer, was in local charge of this work.

LAKE VIEW PUMPING STATION.

MR. F. D. PARKER, Engineer in Charge.

ENGINE No. 1.—A new set of valves was put in the water end and the air pumps overhauled.

ENGINE No. 2.—The valve seats in the water end were refaced and a new set of valves placed. This engine was also painted throughout. As the surface condenser requires continual repairs, it was deemed advisable to replace it with a jet condenser in order to avoid future trouble. The material for this work is now being made in the shops and the change will be made early in the coming year.

ENGINE No. 3.—Only a few minor repairs incidental to its operation were made.

ENGINE No. 4.—This engine received a general overhauling. The steam ends were repaired, the air pump cylinders rebored, plungers rebushed, new pins put in top of beam, a brace put on pillow block, patches were placed on both low pressure crossheads, heaters retubed, steam jackets repiped, new valves put in water end, new brasses for the high-pressure short rods, and straps refitted.

BOILERS.—Early in the year boilers Nos. 1 and 7 were retubed. As no extensive repairs had been made to the old tubular boilers Nos. 1 to 7, inclusive, for nearly ten years, and as they were thus in bad condition, a contract was closed in July for certain repairs as follows:

Placing a new 12-foot bottom sheet on boilers Nos. 1, 2, 3, 4 and 7. Removing all the tubes of boiler No. 4 and replacing same with a new set. Placing a new nozzle and mud drum on Nos. 3 and 5. At the close of the year the repairs on boilers Nos. 1 and 2 had been completed. The main steam header received certain repairs. A new dynamo and switchboard were installed, and the entire wire system was changed, all wires being placed in pipes.

A new oil-room was built in the west end of the boiler-room. Storm sheds were placed on all outside doors. New doors were put on the openings in the coal shed. Three new coal cars were built. All window sashes, frames, and all doors were painted. A new Howe scale for the small coal cars was placed in the boiler-room. The team scale was overhauled and new foundations provided for same.

It is important that the following work be done during 1902: Engine No. 1 requires a new set of plungers and rings, a coat of paint and a few minor repairs. Engine No. 3 should be painted. This engine was run very little during the year. Its capacity is only 5,000,000 gallons per twenty-four hours. Being of an old type, it is expensive to operate. It was run only in case of emergency. On Engine No. 4 leaks in the joints between the high and low pressure cylinders will have to be repaired, and new lagging placed on the cylinders. This engine should also be painted.

HARRISON STREET PUMPING STATION.

MR. THOMAS KAVANAUGH, Engineer in Charge.

ENGINE NO. 1.—A new bucket plunger was placed in the air pump of this engine. On account of the method with which the pump ends were fastened to the foundations, there was a constant vibration. This had a bad effect on the air pump, which is attached to the main pump rod of the engine. The pump ends were therefore anchored with special clamps and bolts. All pump plungers were also repacked.

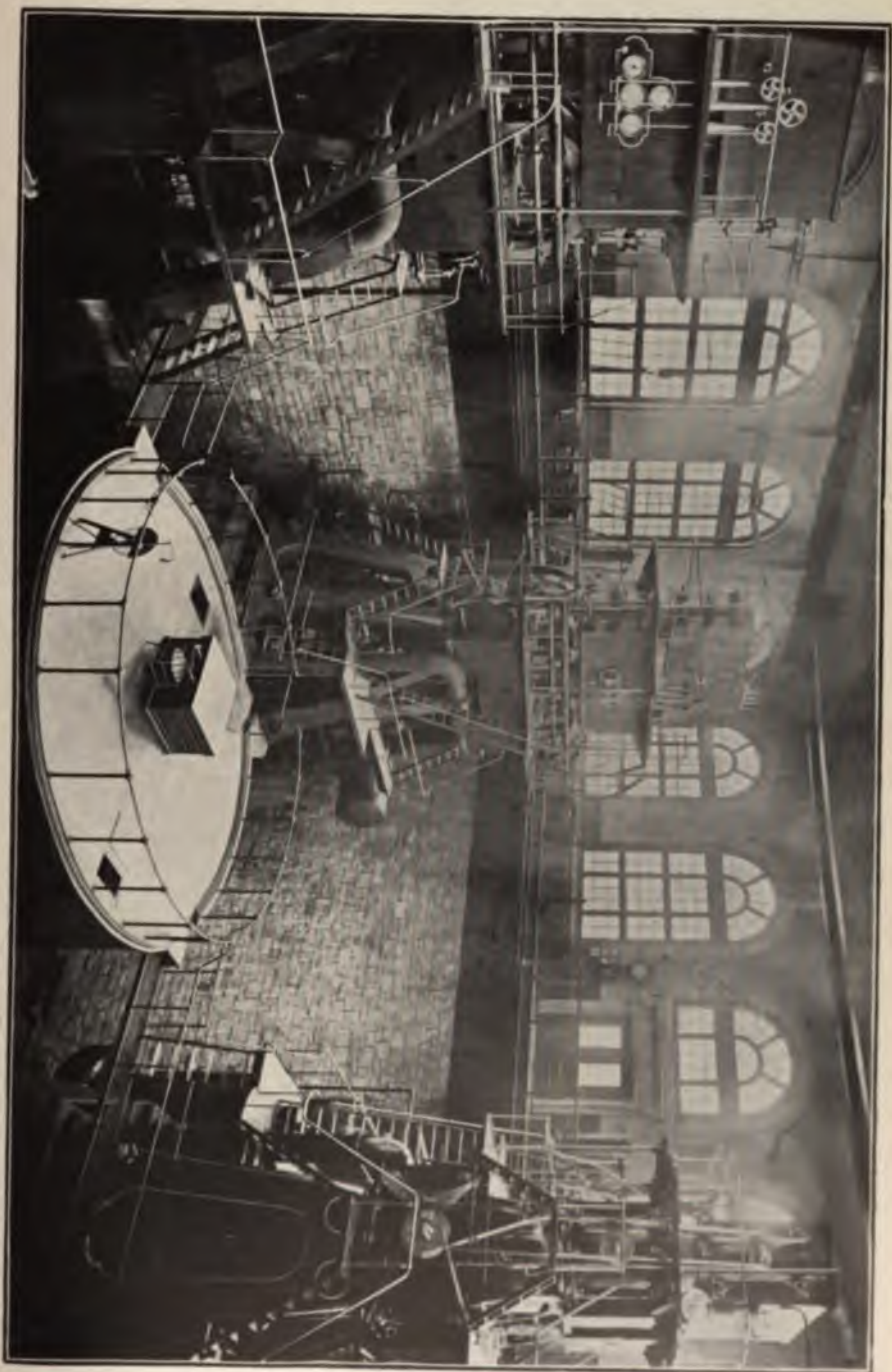
ENGINE NO. 2.—This engine was equipped with new high-pressure crank pins and brasses. The three steam cylinders were covered with new non-conducting material and the lagging entirely renewed. New liners and plungers were placed in two bilge pumps. The liner in one of the feed pump ends was also replaced. A new 12-inch wrought iron steam header for the full length of the boiler-room was installed. This header, with all pipes leading from it, was covered with non-conducting material and all pipes were painted black. A cabinet to store small tools was built and placed in the engine-room. The usual furnace repairs were made.

The only necessary repairs during 1902 will be the recovering of the steam cylinders of engine No. 1.

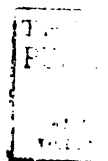
CENTRAL PARK AVENUE PUMPING STATION.

MR. JAMES ASHWORTH, Engineer in Charge.

The first engine in this station was put into operation June 28, 1900, and the other two shortly afterwards. Since that time the



CENTRAL PARK AVENUE PUMPING STATION.



machinery has been in successful operation, this addition to the water works system giving gratifying results. At the close of the year 1900 a great deal of work remained to be done in order to complete the plant as contracted for.

During January, 1900, the covering of the boilers, steam cylinders of engines, and all steam piping was completed. The lagging of the engines was also finished.

THE NORTHERN ELECTRIC COMPANY installed a twenty-five-horse-power dynamo and engine to provide light for the station and power for the traveling crane, the foundations for this machinery having been put in place by City labor.

During February the contractors for the pumping engines made preliminary tests.

Iron rolling doors were put on the coal-room and openings, and the iron shell of the wet well was given its final coat of paint, thus completing this contract. A brick, oil and general storeroom was built in the boiler room. A concrete floor was laid in the machine shop, and a plank driveway for an entrance from Fillmore street in the rear to the boiler-room was constructed. An iron floor with necessary railing was put on the wet well, making connection with the galleries of the engines.

Cinder walks were placed around the west and south sides of the grounds. The concrete bases of the engine piers were cemented. The engine piers were scraped and cleaned and a drain cut around each of the granite cap stones. The machine shop was equipped with a lathe, drill press, emery wheel, and vertical engine, together with a complete set of small tools. Necessary repairs were made on the coal conveyor, new axles and several new buckets being placed.

A system of small pipes was attached to the main steam headers of the boilers by which the condensation is returned to the boilers without the intervention of steam traps.

A fence was built on the building line between the railroad tracks and the station. The windows were equipped with catches, and operating chains and rods. Storm boxes and doors were attached to the three main entrances. The grounds were graded, rolled and seeded.

A great deal of the foregoing work was done by City labor, not having been included in the various contracts.

No final tests have as yet been made on the engines and boilers, the contractors for some months having been engaged in experimenting on one engine with superheated steam with a view of equipping

this station with necessary appliances in order to make it as economical in operation and maintenance as possible in accordance with the requirements of the specifications.

During the year 1902 the most important work to be done in order to complete the station is as follows: Painting of brick engine piers, cleaning and pointing of retaining walls of engine pit, the painting by the contractors of engines Nos. 2 and 3, the laying of cement sidewalks, the placing of necessary fences, and the grading of the grounds east of the building as far as the limits of the City property at St. Louis avenue.

SPRINGFIELD AVENUE PUMPING STATION.

MR. DANIEL L. SULLIVAN, Engineer in Charge.

At the close of 1900 the installation of the machinery was practically completed. The first engine (No. 2) was put into service January 20, 1901, the second (No. 1) February 3d, and the third (No. 3) February 21st. Since then two and in extreme weather three engines have been in operation. The effect has been most marked, and the northwest portion of the city, involving a large area which had before suffered considerably from a lack of pressure, is now amply supplied.

The principal work done during 1901 was as follows: Early in the year the brick lining of the wet well was completed. During January the following was done: Foundations for the electric light engine were constructed. The MacDonald Engineering Company operated satisfactorily the coal conveying machinery, thus completing their contract. A valve was placed on the fourth suction pipe leading from the wet well. The contractor for the wet well shell painted same, thus completing his contract. The interior walls of the engine-room were painted. The electric light generator and engine were installed and put into operation. Radiators were placed.

The gate on the tunnel section leading to this station was opened January 18th, thus filling the wet well preparatory to starting the engines.

The contractor for the building fitted some remaining doors, painted railings around main gallery and spiral stairway, and commenced work on the subgrade for concrete floors. During February this contractor put concrete floors in the boiler-room, machine-shop and storerooms, placed the parquet floor in the office and continued painting of ironwork. Runways were placed over the tops of the boilers with necessary stairways from the floor, thus making all main

valves easy of access. Iron rolling doors were placed on the openings in the coal-room. A concrete floor was placed in the engine-room pit.

During March and April the contractor for the engines and boilers completed the covering of all boilers, steam pipes and steam cylinders of the engines. The lagging of the latter was also completed.

During May the building contractor removed the spoil banks east of the station.

During the year the City forces painted the covering of the boilers and all steam pipes. A cinder walk north of the station was laid. All windows were made movable by means of rod hinges and catches.

No final tests of the engines have yet been made.

The principal work to be done during 1902 in order to make this station complete includes the pointing up and cleaning of the retaining walls of the engine-room pit, the painting of the engine piers, the installation of a lathe, drill press and other small tools, and the grading and sodding of the grounds in the rear of the station.

WASHINGTON HEIGHTS PUMPING STATION.

Mrs. JOHN E. THOMAS, Engineer in Charge.

An important improvement to this station was the construction of a steel water tank and tower. The bottom of the tank is 100 feet above the surface of the ground, its dimensions being twenty-four feet in diameter and forty-two feet high with a capacity of 128,500 gallons. This tank was put into service November 28, 1901. The old wooden tank on the ridge about a mile west of the station, which was in a bad state of decay, is now permanently abandoned. The new million and a half gallon pumping engine installed during 1900 has given satisfactory service.

It is imperative that the supply of water to this station obtained from Sixty eighth street pumping station be increased as soon as possible. Recommendations have already been made involving the laying of a new system of large feeder mains and the construction of a new lake and land tunnel to lead from the present Sixty eighth street crib to a new station to be located in the vicinity of 103d and State streets. This improvement would permanently supply the southwestern portion of the city with an ample supply of water and remove all danger of a water famine during extreme weather in the district supplied by the Washington Heights station.

The principal repairs made during the year at this station were as follows: The plunger of the deep well pump was provided with

WATER WORKS SHOPS.

During the year the two engines, No. 1 were repaired. The boiler of No. 2 was overhauled and the boiler provided with a new grate. The old grate was removed and a new one was installed. The iron stack at this station was removed. A new stack, 48 inches in diameter and 45 feet high, was built. A new sidewalk leading from Vincennes street to the station was rebuilt. All drainage pipes were connected with the new sewer built in Vincennes street.

The work to be made during 1902 include the placing of a new grate on the north boiler, the rebuilding of its furnace, the rebuilding of the old duplex horizontal engine, and the painting and repainting of the engine room. A team scale to weigh coal should be installed.

NORWOOD PARK PUMPING STATION.

MR. NILES SAMPSON, Engineer in Charge.

During 1900 a contract was let for the construction of a new artesian well and the furnishing and installation in connection with it of a double-acting deep well pump, the capacity of this equipment to be not less than 350,000 gallons per twenty-four hours. This work was completed in May, 1901, with the result that the capacity of this station is sufficient to supply the district dependent upon it for years to come.

The total capacity of the pumping engines at this station is one million gallons per twenty-four hours, thus providing ample reserve machinery. In order to properly house the new deep well pump, a small addition to the station was built. Necessary steam heating coils were placed. The old roof over the boiler-room was replaced with a new tar-and-gravel covering.

WATER WORKS SHOPS.

MR. JAMES GALVEY, Superintendent.

During the year all the old hydrant and valve patterns were overhauled. New patterns were also made for the double and single hydrants. A number of changes were made in the meter section of the shops, a new meter rest being added, causing considerable saving in time while meters are tested. All lathes, planers, and drill presses received a thorough overhauling, putting them in proper condition to meet all demands made on them. Repairs were made to the shafting pulleys and belting. The old lead melting furnace was removed

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from the shop proper and installed in the blacksmith shop. A great amount of miscellaneous repair work was done for the various bureaus of the Department of Public Works. The repairing of hydrants required more work than ever before. More than 300 hydrants were rebuilt. About 800 meters, ranging in size from five-eighths of an inch to six inches were tested and repaired.

During the year the following new hydrants and valves were built:

	Single Hydrants.	2½-Inch Double Hydrants.	3¼-Inch Double Hydrants.	4-Inch Double Hydrants.
On hand January 1, 1901	17	1	1	8
Manufactured during 1901	144	324	0	7
Total	161	325	1	15
Shipped during 1901	152	315	0	13
On hand January 1, 1902	9	10	1	2

2

	4-Inch Valves.	6-Inch Valves.	8-Inch Valves.	12-Inch Valves.	16-Inch Valves.	24-Inch Valves.
On hand January 1, 1901	7	3	18	3	3	0
Manufactured during 1901	64	242	60	17	2	1
Total	71	245	78	20	5	1
Shipped during 1901	60	240	76	18	4	0
On hand January 1, 1902	11	5	2	2	1	1

WATER TUNNELS IN USE.

No changes of any kind were made in the various water tunnel systems. The mileage remains the same as reported in the annual report for 1900, as follows:

5 feet diameter, length	18,835 feet.
6 feet diameter, length	44,170 feet.
7 feet diameter, length	61,396 feet.
8 feet diameter, length	51,605 feet.
10 feet diameter, length	22,699 feet.

Total 198,795 feet or 37.7 miles.

TABLE "B." OPERATIONS OF PUMPING STATIONS DURING 1901.

	Fourteenth Street Pumping Station.	Sixty-eighth Street Pumping Station.	West Pumping Station.	North Pumping Station.
Anthracite coal, tons.....				977,183
Bituminous coal, tons.....	14,711.74	11,991.53	17,230.15	16,930,188
Price of anthracite coal, per ton.....				\$6.67
Price of bituminous coal, per ton.....	\$4.16	\$3.70	\$3.26	3.18
Cost of anthracite coal.....				\$ 6,520.46
Cost of bituminous coal.....	\$ 61,172.61	\$ 55,275.86	\$ 56,198.56	53,819.92
Total cost of fuel for operation.....	66,417.31	55,297.09	51,334.18	60,359.07
Salaries.....	40,461.77	35,604.33	34,925.48	51,556.92
Cost of oil, stores and light.....	2,793.95	2,787.52	2,720.89	4,895.47
Repairs to buildings, pumps, engines and boilers.....	8,157.27	14,833.73	8,594.94	5,867.93
Total expense of operation and maintenance.....	112,130.70	110,452.67	97,555.49	122,879.39
All other expenses combined.....	1,593.18	66.74	4,699.37	6,470.83
Grand total of expenses.....	113,723.48	110,519.41	102,274.86	128,750.22
Total gallons pumped during the year.....	28,211,538.651	21,681,105.522	18,298,356.160	17,216,381.675
Per cent of pumpage of City as a whole.....	18.5	17.3	14.6	13.7
Greatest amount pumped in one day, gallons.....	Dec. 19 77,031,553	July 10 67,157,720	Feb. 23 62,353,800	Jan. 3 62,363,850
Least amount pumped in one day, gallons.....	May 15 40,080,349	Nov. 21 50,721,040	Nov. 21 20,134,000	Dec. 25 35,545,555
Average pumped per day, gallons.....	63,593,255	59,400,259	50,118,784	47,168,167
Average head against pumps, in feet.....	116.6	113.2	101.5	106.1
Cost of fuel pumping 1,000,000 gallons one foot high.....	2.33 c	2.15 c	2.75 c	6.86 c
Total cost of pumping 1,000,000 gallons one foot high.....	4.33 c	4.33 c	5.25 c	6.96 c

TABLE "B."—OPERATIONS OF PUMPING STATIONS DURING 1901.—CONTINUED.

	Central Park Avenue Pumping Station.	Harrison Street Pumping Station.	Lake View Pumping Station.	Springfield Avenue Pumping Station.	The City as a Whole.
Anthracite coal, tons.....					977,188
Bituminous coal, tons.....	7,109,387	6,769,188	8,408,878	5,684,168	91,780,832
Price of anthracite coal, per ton.....					\$6.67
Price of bituminous coal, per ton.....	\$3.96	\$4.00	\$3.68	\$3.95	8.67
Cost of anthracite coal.....					\$ 6,520.46
Cost of bituminous coal.....	\$28,150.20	\$27,079.79	\$30,987.71	\$23,256.59	334,789.21
Total cost of fuel for operation.....	27,957.12	27,079.70	30,937.71	21,307.92	334,560.19
Salaries.....	27,075.94	24,784.81	27,966.72	24,023.12	268,549.09
Cost of oil, stores and light.....	3,390.84	2,482.84	3,640.58	2,657.05	24,869.64
Repairs to buildings, pumps, engines and boilers.	3,262.86	6,776.39	12,281.44	2,115.41	62,309.97
Total expense of operation and maintenance.....	61,686.70	61,073.33	74,826.45	50,163.50	690,187.89
All other expenses combined.....	4,990.58			6,688.30	24,504.00
Grand total of expenses.....	66,677.34	61,073.33	74,826.45	56,846.80	714,691.89
*Total gallons pumped during the year.....	13,357,732,380	11,313,667,636	10,467,928,559	9,530,856,520	125,190,558,908
*Per cent of pumpage of City as a whole.....	10.6	9.4	8.8	7.6	100.0
Greatest amount pumped in one day, gallons.....	Dec. 27 58,038,560	Dec. 16 32,660,341	April 30 39,432,138	Aug. 17 46,366,100	407,658,284
Least amount pumped in one day, gallons.....	Aug. 18 17,935,370	Sept. 1 15,831,613	Aug. 25 19,157,847	Jan. 25 5,949,000	299,409,853
*Average pumped per day, gallons.....	36,678,718	30,996,347	28,765,954	27,949,726	312,834,449
Average head against pumps, in feet.....	92.9	102.4	102.1	93.8	105.6
Cost of fuel pumping 1,000,000 gals. one foot high.....	2,165.00	2,330.00	2,166.00	2,166.00	2,166.00
Total cost of pumping 1,000,000 gals. one foot high.....	4,165.00	5,230.00	6,166.00	5,166.00	5,166.00

*Except Norwood Park and Washington Heights Pumping Stations.

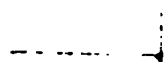


TABLE "B."—OPERATIONS OF PUMPING STATIONS DURING 1901—CONTINUED.

	Central Park Avenue Pumping Station.	Harrison Street Pumping Station.	Lake View Pumping Station.	Springfield Avenue Pumping Station.	The City as a Whole.
Anthracite coal, tons.....		977,188			977,188
Bituminous coal, tons.....	7,109,886	6,789,185	8,408,270	5,684,118	91,780,500
Price of anthracite coal, per ton.....					\$6.67
Price of bituminous coal, per ton.....	\$3.96	\$4.00	\$3.68	\$3.95	8.67
Cost of anthracite coal.....					\$ 6,520.46
Cost of bituminous coal.....	\$28,150.20	\$27,079.79	\$30,087.71	\$23,256.59	894,789.21
Total cost of fuel for operation.....	27,957.12	27,079.79	30,937.71	21,367.92	334,560.19
Salaries.....	27,075.94	24,784.81	27,966.72	24,023.12	268,549.09
Cost of oil, stores and light.....	3,390.84	2,482.84	3,640.58	2,657.05	24,868.64
Repairs to buildings, pumps, engines and boilers.	3,262.86	6,776.39	12,281.44	2,115.41	62,209.97
Total expense of operation and maintenance.....	61,686.70	61,073.33	74,926.45	50,163.50	690,187.89
All other expenses combined.....	4,990.58			6,683.30	24,504.00
Grand total of expenses.....	66,677.34	61,073.33	74,926.45	56,846.80	714,691.89
*Total gallons pumped during the year.....	13,357,332.380	11,313,662,636	10,495,923,559	9,580,856,520	125,130,558,908
*Per cent of pumpage of City as a whole.....	10.6	9.4	8.3	7.6	100.0
Greatest amount pumped in one day, gallons.....	Dec. 27 58,036,560	Dec. 16 32,660,341	April 30 38,432,138	Aug. 17 46,386,100	407,658,284
Least amount pumped in one day, gallons.....	Aug. 18 17,935,370	Sept. 1 15,881,613	Aug. 25 19,157,847	Jan. 25 5,949,000	299,402,853
*Average pumped per day, gallons.....	36,678,718	30,996,347	28,755,964	7,949,726	342,834,449
Average head against pumps, in feet.....	92.9	102.4	102.1	93.8	105.6
Cost of fuel pumping 1,000,000 gals. one foot high.	216c	216c	216c	216c	216c
Total cost of pumping 1,000,000 gals. one foot high.	416c	521c	616c	516c	516c

*Except Norwood Park and Washington Heights Pumping Stations.

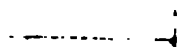


TABLE "B."—OPERATIONS OF PUMPING STATIONS DURING 1901—CONTINUED.

	Central Park Avenue Pumping Station.	Harrison Street Pumping Station.	Lake View Pumping Station.	Springfield Avenue Pumping Station.	The City as a Whole.
Anthracite coal, tons					977,488
Bituminous coal, tons	7,109,327 ⁵ / ₈	6,769,133 ⁵ / ₈	8,403,270 ⁵ / ₈	5,634,112	91,780,332 ⁵ / ₈

TABLE "B."—OPERATIONS OF PUMPING STATIONS DURING 1901—CONTINUED.

	Central Park Avenue Pumping Station.	Harrison Street Pumping Station.	Lake View Pumping Station.	Springfield Avenue Pumping Station.	The City as a Whole.
Anthracite coal, tons .....	.....	.....	.....	.....	977,488
Bituminous coal, tons	7,109.39%	6,769,133%	8,403,37%	5,634,41%	91,780,33%



CLYBOURN PL. BRIDGE, WEST PIERS, JULY 2, 1901.

The preceding tables give detailed information as to pumpage, expenditure, etc. Table "A" gives the monthly and annual pumpage at the various stations. Table "B" gives the more important figures relating to quantities and expense. The appended diagram shows the daily pumpage at each station, separately and combined, with the head pumped against, as well as the temperature of the water.

LAKE CRIBS.

TWO MILE CRIB.

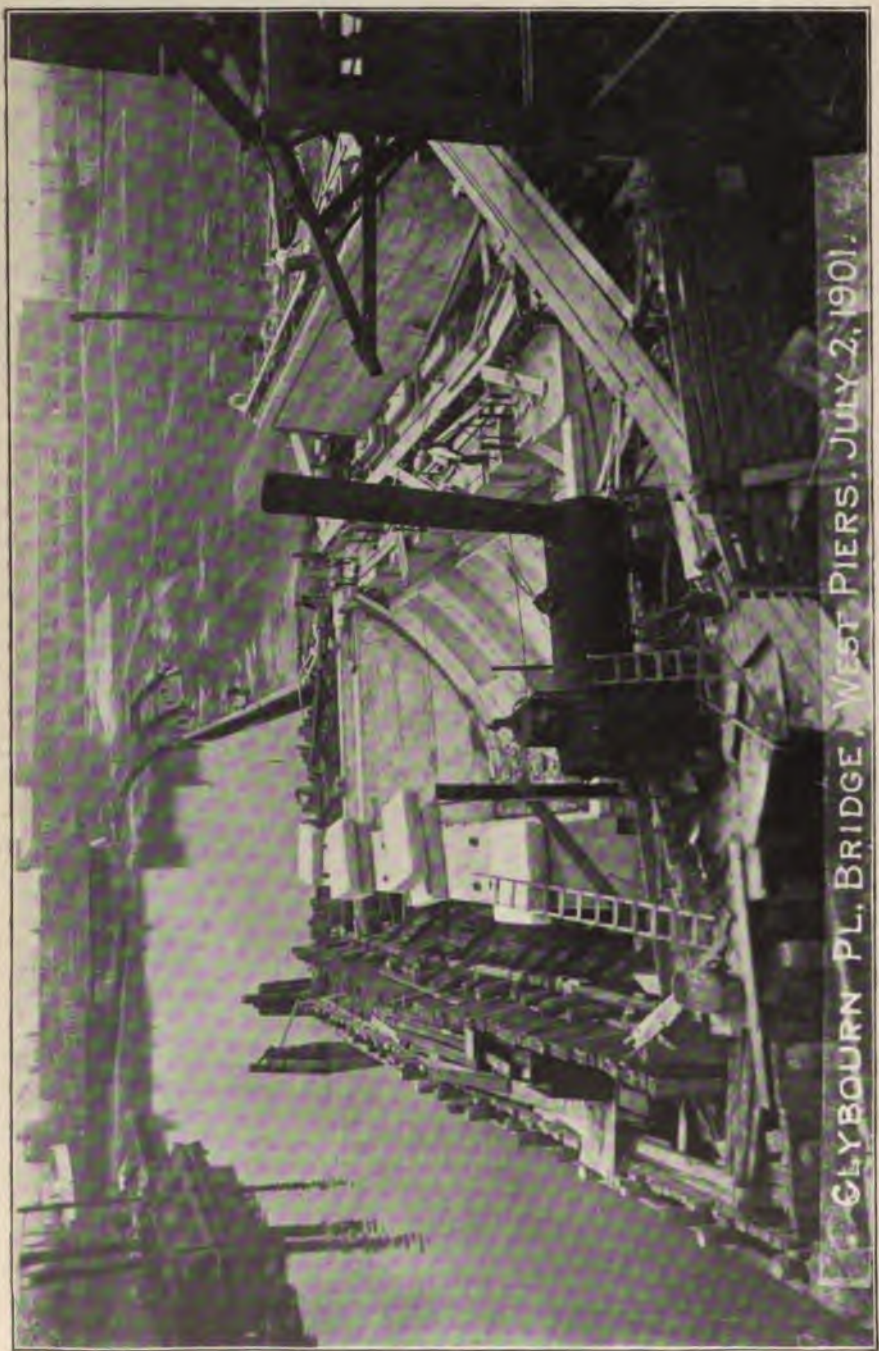
JAMES DUFFGAN, Keeper.

The port boxes were found to be in bad condition, the timbers having become badly decayed. These were completely renewed. The hallway leading from the inside stairway to the dining-room and kitchen was torn out and a new one constructed. The woodwork was given two coats of paint. The kitchen and dining-room floors were renewed and covered with linoleum. The piling around the intake to the north tunnel in the addition to the main crib became badly sprung from the pressure of the stone filling. Some of the piles were bowed sufficiently to break a 6x10-inch pine binder that was bolted through to the second row of piles. The stone was removed and a new 8x12-inch oak binder was bolted on each side of the two rows of piling. The piles were then drawn in line by iron bolts ten feet long, after which the stone was replaced. The decking of the crib protection was renewed in various places. New oak sheathing was placed on the south and west faces of the protection.

LAKE VIEW CRIB.

GILBERT JOHNSON, Keeper.

As recommended annually for the past three or four years, a new superstructure for this crib is an absolute necessity. This crib has been in use since 1891, and as the superstructure originally was only built as a temporary expedient, it can readily be realized why the present structure is in a bad state of decay. No repairs can be made that will be of any permanent benefit. During the year only a few minor repairs were made in order to keep the building in a reasonably habitable condition. A large amount of sand had very gradually accumulated in the well around the intake shaft. A centrifugal pump was installed and this sand pumped out. New decking was placed on various portions of the protection.



CLYBOURN PL. BRIDGE, WEST PIERS, JULY 2, 1901.

The preceding tables give detailed information as to pumpage, expenditure, etc. Table "A" gives the monthly and annual pumpage at the various stations. Table "B" gives the more important figures relating to quantities and expense. The appended diagram shows the daily pumpage at each station, separately and combined, with the head pumped against, as well as the temperature of the water.

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TWO MILE CRIB.

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FOUR-MILE CRIB.

CHARLES T. MILLER, Keeper.

This crib is in good condition. Through the action of the weather the stone steps leading from the living rooms to the upper promenade balcony had become badly scaled. They were replaced with cement steps. The hand rails around the upper promenade were made more secure. The constant action of the water forced considerable of the stone filling of the landing out between the piles near the bottom, necessitating the placing of a small amount of riprap.

SIXTY-EIGHTH STREET CRIB.

WILLIAM HUNCHE, Keeper.

Early in the morning of September 8, 1901, the steamer "City of Milwaukee" ran into the breakwater of the east side of the crib. About 25 feet of the protection for about half its width, and extending nearly to the water's edge, was torn out. This allowed a large amount of the stone filling to fall out. The damage was repaired, considerable additional stone being put at the same time in various parts of the breakwater.

This crib is in excellent condition and no repairs of any magnitude will be necessary for a long time.

CARTER H. HARRISON CRIB.

PATRICK SULLIVAN, Keeper.

A five-ton jib crane was erected on the landing of this crib to be used in handling coal and other heavy supplies from the tugs to the house. An oak balcony was placed around each of the two intake shafts and stairways built, connecting these balconies with the main gallery of the wellroom. The tops of the intake shafts were covered with iron gratings. An automatic fog bell apparatus was installed and connection made with the fog bell on the lighthouse tower. By these means the current in the shaft is utilized to ring the bell automatically.

A Cragin garbage crematory and hot water heater were installed. In order to reach the living rooms from the basement and the wellroom without going outside, one of the inside windows of the dwelling was cut out and made into a doorway. At this point an iron stairway was erected connecting with the gallery of the wellroom.

DIVISION OF WATER PIPE EXTENSION.

MR. JAMES WALLACE, Superintendent. MR. THOMAS F. KEIRNAN, Asst. Superintendent;
MR. GEORGE K. WHEELOCK, Assistant Engineer.

The improvement of the water pipe system has been continued, as in former years, especial attention being given to streets under contract to be paved, where small mains have been replaced by pipes of larger size, placing of valves on pipe lines already in service, and by replacing single with double nozzle hydrants.

A preliminary step was taken toward relieving West Pullman from lack of adequate water supply, by the laying of a 16-inch water main in 118th street from State street to Stewart avenue. This main will be continued to Center avenue during the coming season, when a much better supply will be given to the West Pullman district.

Whenever it is found that the permanent annual revenue from buildings erected on any street will yield an annual revenue from frontage rates of ten (10) cents per lineal foot, the City executes the work, without cost to the property owner, when so ordered by the City Council.

The many demands made each year for pipe to be laid under this ordinance, causes defects in the water system, such as "dead ends" and systems without the requisite supply, making it necessary to lay pipe for the improvement of the system.

The cost of work on revenue and for circulation is chargeable under the head of "Water Pipe Extension" and is a legitimate charge to be borne by the fund appropriated for that purpose.

The amount of pipe laid during the year for circulation and on revenue was 12,791 lineal feet of various sizes. The cost of laying this pipe and of changing hydrants and setting additional valves, as noted above, is \$62,263.57.

During the year 135 estimates were prepared for water supply pipes, and plans and specifications in duplicate were prepared for contracts on twenty four streets. In addition to these streets there were twenty-seven streets completed this year, on which contracts were awarded in 1900, making a total of fifty-one streets, amounting to 11,839 lineal feet of various sizes at a cost of \$52,237.24. This work was executed under instructions of the Board of Local Improvements.

In order to avoid delay incidental to securing water supply pipe

by special assessment, property-owners deposited with the City this year the sum of \$22,942.87 to cover the cost of laying 22,257 feet of pipe of various sizes.

The completion of the intercepting sewer in Lawrence avenue from Magnolia avenue to Beacon street permitted the relaying of the 8-inch water main between those points. There was also considerable work done on Thirty-ninth street, in relaying and removing water mains due to the construction of the intercepting sewer in that street. The expense of this work was paid by the Bureau of Sewers.

The elevation of the Chicago & Western Indiana tracks necessitated the moving of the 6-inch water main from under the west retaining wall to a point about 7 feet west thereof, between 474 feet north of Sixtieth street and Sixty-third street. The expense was borne by the railroad company.

During the year private meter connections were made by this Division at a total cost of \$6,197.52.

Over 5,643 leaks were reported to this office and were given prompt attention. A few of these leaks were in the large-sized mains, but the promptness with which the district forces acted in shutting off and repairing same prevented serious damage to adjacent property. One was at Canalport avenue, near Halsted street, in the 24-inch main; another at Seventy-ninth street and Seipp avenue, in the 36-inch main; a third at Montrose avenue and Clark street, in the 36-inch main, and a fourth at Sixty-sixth street near Lowe avenue.

There were 239 hydrant basins, 289 valve basins and 10 fire cisterns built during the year; the material used in this work being 509,900 brick, 1,471 barrels of cement, and 261 yards of sand. In the rebuilding of 117 hydrant basins, 18 valve basins, and in general repairs to the water pipe system, there were used 598,875 brick, 2,803 barrels of cement and 469 yards of sand.

The number of hydrant basins filled with manure to December 31, 1901, was 19,296, at a total cost of \$14,641.96.

The following table shows location of water mains lowered to prevent freezing and in subways built in connection with elevation of railroad tracks. In addition thereto considerable pipe was taken up and replaced by mains of larger size. This work shows in tables of "pipe laid" and of "pipe taken up and abandoned":

WATER MAINS LOWERED.

STREET.	FROM	TO	Length of Pipe in feet.	Diam. in inches.
Howard court	280 ft. S. of Ninety- seventh.....	Southward.....	300	6
Longwood avenue....	150 ft. S. of Ninety fifth.....	Southward.....	268	6
Longwood avenue....	Ninety seventh.....	Southward.....	180	6
Longwood avenue....	Ninety ninth.....	Northward	928	6
Longwood avenue....	105th street.....	105th.....	1,172	6
Ninety ninth	Howard court.....	Westward.....	300	6
103d	Longwood avenue....	Westward.....	350	8
Throop	193 ft. N. of Archer avenue.....	Northward	360	36
Throop	200 ft. S. of Twenty- second.....	Southward.....	244	36
Tremont	Normal avenue....	Eastward.....	536	
Total.....			<u>4,638</u>	

WORK IN DETAIL.

The following tables show in detail the work of this Division :

HYDRANTS PLACED IN 1901.

DIVISION.	2 1/2-inch Single.	2 1/2-inch Double	4-inch Double.	Total.
North.....	3	2	.....	5
South.....	2	14	.....	16
West	18	74	.....	92
Hyde Park.....	11	21	.....	32
Lake View.....	17	15	.....	32
Lake	25	17	1	43
Jefferson.....	18	23	.....	41
Calumet	9	16	.....	25
Totals	103	182	1	286

**HYDRANTS TAKEN OUT IN 1901, WHICH WERE REPLACED BY
HYDRANTS OF DIFFERENT SIZE.**

DIVISION.	2½-inch Single.	2½-inch Double.	2½-inch Double with one 4-inch Single.	Total.
North	4			4
South	10			10
West	19			19
Hyde Park	1	3		4
Lake View	4	5		9
Lake		18	3	21
Jefferson				
Calumet		3		3
Totals	38	29	3	70

TOTAL NUMBER OF FIRE HYDRANTS AT THE CLOSE OF 1901.

DIVISIONS.	2½-inch Single.	2½-inch Double.	3½-inch Double.	4-inch Double.	2½-inch Double, with one 4-inch Single.	Total.
North	395	567		133		1,095
South	766	1,137		194		2,097
West	1,671	4,395	21	237		6,324
Hyde Park	459	1,888		12	603	2,962
Lake View	302	1,201			1	1,504
Lake	399	973		4	1,589	2,964
Jefferson	286	1,296		4		1,586
Calumet	186	504			55	745
Norwood Park	6	41				47
Totals	4,470	12,001	21	584	2,248	19,324

STOP VALVES PUT IN DURING THE YEAR 1901.

DIVISION.	SIZE OF VALVES.					Total.
	4 inch.	6 inch.	8 inch.	12 inch.	16 inch.	
North.....	1	5	3	.....	.....	9
South.....	1	25	4	2	.....	32
West.....	1	90	32	4	.....	127
Hyde Park.....	3	18	5	1	.....	27
Lake View.....	1	30	7	1	.....	39
Lake.....	.....	28	5	8	1	42
Jefferson.....	.....	17	8	.....	.....	25
Calumet.....	.....	7	11	.....	2	20
Norwood Park.....	2	.....	.....	.....	.....	2
Rogers Park.....	.....	4	.....	.....	.....	4
Totals.....	9	224	75	16	3	327

During the year 1901 there were taken out in the North Division two 4-inch valves and one 6-inch valve; in the South Division, five 4-inch valves; in the West Division, twenty 4-inch valves; in Hyde Park, one 24-inch valve; in Lake View, eleven 4-inch valves and two 6-inch valves. Total, thirty-eight 4-inch valves; three 6-inch valves and one 24-inch valve; all of which were replaced by valves of different sizes except the 24-inch valve, which was abandoned.

TOTAL NUMBER AND SIZE OF VALVES IN USE AT THE CLOSE OF 1901.

DIVISION.	SIZE OF VALVES.													Total.
	3-inch.	4-inch.	6-inch.	8-inch.	10-inch.	12-inch.	14-inch.	16-inch.	18-inch.	20-inch.	24-inch.	30-inch.	36-inch.	
North.....	187	512	328	.....	40	.....	18	.....	.....	19	.....	8	1,068
South.....	153	788	687	1.	94	.....	25	.....	.....	88	2	16	1,904
West.....	550	2,667	1,888	.....	328	.....	78	.....	.....	84	.....	27	5,067
Hyde Park.....	75	1,250	842	20	98	4	59	.....	1	23	.....	0	1,881
Lake View.....	1	198	942	201	.....	54	8	17	.....	3	14	1	5	1,439
Lake.....	111	1,881	428	2	97	14	32	2	.....	25	4	2	2,098
Jefferson.....	5	802	418	.....	98	.....	12	.....	.....	32	5	8	1,378
Calumet.....	5	258	102	.....	9	.....	4	.....	.....	1	.....	.....	379
Norwood Park.....	14	16	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	37
Rogers Park.....	4	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Totals.....	1	1,248	8,620	3,903	23	817	21	240	2	4	186	12	70	15,147

PIPE LAID IN NORTH DIVISION.

STREET.	FROM	TO	Length of Pipe in feet.	Diameter in inches.
*Alley 1st W. of Lake / Shore Drive.....	Division	Southward	140	4
Grant place	Crossing	Cleveland avenue ..	80	6
Larrabee	Chicago avenue ..	Oak	1,400	6
North Water	209 ft. E of St. Clair.	Eastward	182	12
Total			1,802	
Add branch pipe for hydrants			36	4
Add branch pipe for hydrants			24	6
Total feet of pipe laid in North Division....			1,862	

* Laid by Deposit.

SOUTH DIVISION.

STREET.	FROM	TO	Length of Pipe in feet.	Diameter in inches.
Alley 1st W. of Grand boulevard..	Thirty eighth	Southward	341	6
Alexander	Crossing	Princeton avenue ..	55	6
Bonfield	(287 ft. S. of S. L. / Hillock avenue.)	Southward	316	6
Farrell	(280 ft. S. of S. L. / Hillock avenue.)	Southward	309	6
Fennell	8 ft. E. of Archer ave	Westward	48	6
Fennell	Crossing	Princeton avenue ..	56	6
*Randolph	Wabash avenue	Westward	245	8
Throop	176 ft. N. of Arden avenue	Northward	394	6
Twenty third place	Crossing	Archer avenue	86	6
Twenty third place	Crossing	Princeton avenue ..	58	6
Twenty fourth place	Crossing	Princeton avenue ..	58	6
Twenty fifth	Michigan avenue	Wabash avenue	175	6
Twenty fifth	(55 ft. W. of W. L. / S. Park avenue.)	50 ft. E. of Cottage / Grove avenue)	182	6
Twenty fifth place	Crossing	Princeton avenue ..	62	6
*Van Buren	Wabash avenue	Westward	257	12
Total			2,942	
Add branch pipe for hydrants			24	4
Add branch pipe for hydrants			168	6
Total feet of pipe laid in South Division....			3,134	

* Laid by Deposit.

WEST DIVISION.

STREET.	FROM	TO	Length of Pipe in feet.	Diameter in inches.
Ada N.	Crossing	Huron	80	6
†Adams	S. Forty-eighth ave.	Eastward	250	6
Avers avenue	Division	Southward	249	6
Ayers court	Crossing	Huron	39	6
Broom	Connecting	Grand avenue	17	6
Campbell avenue	Crossing	Van Buren	74	6
Central Park avenue	Evergreen avenue	Southward	29	8
*Central Park avenue	Potomac avenue	Southward	194	8
*Central Park avenue	Thirtieth	Thirty-first	666	8
Cicero court	Crossing	Van Buren	77	6
Claremont avenue	Blue Island avenue	Northward	158	6
Claremont avenue	Crossing	Grand avenue	26	6
†Colorado avenue	172 ft. W. of S. Forty-seventh avenue	18 ft. E. of S. Forty-eighth avenue	420	8
Colorado avenue	Connecting	S. Forty-eighth ave.	49	8
Cornelia	Crossing	Noble	79	6
†Cortez	Kedzie avenue	Alley 1st E. of Spaulding ave.	525	6
†Crystal	N. Forty-third ave.	N. Forty-fourth ave.	678	6
Emma	Crossing	Noble	20	6
Evergreen avenue	Crossing	Central Park avenue	40	6
Ferdinand	Crossing	Oakley avenue	46	6
*Fifty-first court S.	Park avenue	Southward	240	6
Fifty-second avenue S.	Park avenue	Southward	303	8
†Fortieth avenue S.	170 ft. S. of C. B. & Q. Ry.	Twenty-fifth	792	8
Fortieth avenue S.	W. Twelfth	Alley 1st N. of Fillmore	830	8
Forty-first court S.	W. Twenty-second	Southward	325	6
†Forty-third avenue S.	W. Twenty-seventh	W. Thirty-first	1,980	6
†Forty-fourth avenue S.	W. Twenty-eighth	W. Thirty-first	1,306	8
Forty-fourth court S.	165 ft. N. of Lexington	Northward	229	6
Forty-fifth avenue S.	Congress	75 ft. N. of Van Buren	418	6
†Forty-fifth court S.	Polk	Lexington	354	8
†Forty-eighth avenue S.	Congress	Van Buren	340	8
†Forty-eighth avenue S.	Van Buren	Madison	2,013	8
*Forty-eighth court S.	Fulton	Southward	440	6
*Forty-ninth avenue N.	Augusta	Thomas	660	6
Fourteenth W.	S. Fortieth avenue	S. Forty-second ave.	1,363	8
Forquer	Halsted	Blue Island avenue	940	6
Fry	Crossing	Noble	44	6
*Fulton	S. Forty-ninth ave.	S. Fiftieth avenue	713	6
†Gladys avenue	S. Forty-eighth ave.	S. Fiftieth avenue	1,078	6
Grand avenue	Crossing	N. Fortieth avenue	21	12
Hirsch	Crossing	Grand avenue	25	6
*Homan avenue	W. Thirtieth	W. Thirty-first	663	8
Honore	Crossing	Van Buren	43	6
Huron	Crossing	Noble	69	8
Iron	Thirty-fifth	Southward	655	6
Irving avenue	Crossing	Van Buren	70	6
†Jackson W.	S. Forty-eighth ave.	S. Fiftieth avenue	1,078	8
†Kedzie avenue N.	70 ft. N. of Augusta	Division	1,233	12
Keith	Crossing	Huron	41	6
Lexington	Leavitt	DeKalb	811	6
Loomis	Crossing	Van Buren	22	8
†Madison	Crossing	S. Forty-eighth ave.	59	8

* Laid by Deposit.

† Laid by Special Assessment.

WEST DIVISION--CONTINUED.

STREET.	FROM	TO	Length of Pipe in feet.	Diameter in inches.
Marshfield avenue.....	Crossing.....	Van Buren.....	69	6
Mather.....	Crossing.....	Clinton.....	68	6
McAlister place.....	Lytle.....	Sibley.....	559	6
† Monroe.....	S. Forty eighth ave.....	130 ft. W. of Fifth avenue.....	1,008	6
Monticello avenue.....	275 ft. E. of Potomac avenue.....	Northward.....	162	6
Osborne.....	Connecting.....	Grand avenue.....	12	6
Park avenue.....	Crossing.....	Western avenue.....	73	6
Pierce.....	Halsted.....	Desplaines.....	802	6
Seeley avenue.....	Crossing.....	Van Buren.....	27	6
* St. Louis avenue.....	130 ft. S. of Twenty-eighth.....	W. Thirtieth.....	472	8
* St. Louis avenue.....	W. Thirtieth.....	W. Thirty-first.....	600	8
Superior.....	Crossing.....	Noble.....	36	6
† Thomas.....	Kedzie avenue.....	Ally 1st E. of Spaulding ave.....	525	6
† Tripp avenue.....	North avenue.....	Hirsch.....	1,221	6
Troy.....	200 ft. N. of N. L. twenty-eighth.....	W. Thirtieth.....	871	6
* Trumbull avenue.....	Chicago avenue.....	Iowa.....	595	6
* Turner avenue.....	W. Twenty eighth.....	509 ft. S. of W. Thirtieth.....	1,241	6
Twelfth place.....	Homan avenue.....	Westward.....	175	6
† Twenty fourth W.....	S. Fortieth avenue.....	S. Forty first court.....	809	6
† Twenty fourth W.....	S. Forty first court.....	S. Forty second ave.....	439	6
† Twenty-fourth place W.....	S. Fortieth avenue.....	(180 ft. W. of S. / / Forty-first ave., /	635	6
† Twenty fifth place W.....	S. Fortieth avenue.....	(173 ft. W. of S. / / Forty first ave., /	634	6
† Twenty-fifth place W.....	S. Forty first court.....	S. Forty-second ave.....	440	6
* Van Buren.....	S. Forty eighth ave.....	S. Fiftieth avenue.....	1,004	6
* Webster avenue.....	Elston avenue.....	Eastward.....	535	6
Western avenue.....	Park avenue.....	Washington blvd.....	235	8
Total.....			3,7184	
Add branch pipe for hydrants.....			216	4
Add branch pipe for hydrants.....			888	6
Total feet of pipe laid in West Division.....			38,288	

* Laid by Deposit.

† Laid by Special Assessment.

HYDE PARK.

STREET.	FROM	TO	Length of Pipe in feet.	Diameter in inches.
Alley 1st E. of Calumet avenue.....	Forty-ninth.....	Fiftieth.....	646	6
Calumet avenue.....	Fifty-seventh.....	Northward.....	108	6
Calumet avenue.....	Fifty-eighth.....	Northward.....	292	6
Cornell avenue.....	Fifty-first.....	Southward.....	1,002	4
Cornell avenue.....	Fifty-third.....	72 ft. N. of Fifty-fifth	1,510	6
*Drexel boulevard.....	Forty-eighth.....	Southward.....	229	6
Eighty-eighth.....	Muskegon avenue.....	Manistee avenue.....	878	6
Fiftieth.....	Calumet avenue.....	Eastward.....	153	6
Fifty-fourth place.....	Woodlawn avenue.....	Lexington avenue.....	408	6
Forty-ninth.....	Calumet avenue.....	Eastward.....	196	6
*Indiana avenue.....	119th.....	120th.....	642	6
*Langley avenue.....	Connecting.....	Ninety-first place.....	27	6
†Michigan avenue.....	103d.....	572 ft. S. of 104th.....	1,291	6
†Monroe avenue.....	Sixty-eighth.....	Southward.....	404	6
*Ninety-first place.....	Langley avenue.....	Eastward.....	310	6
*Oglesby avenue.....	Seventy-eighth.....	Seventy-ninth.....	700	6
102d.....	Crossing.....	Michigan avenue.....	54	6
102d place.....	Crossing.....	Michigan avenue.....	54	6
103d place.....	Crossing.....	Michigan avenue.....	72	6
104th.....	Crossing.....	Michigan avenue.....	72	6
106th.....	Buffalo avenue.....	Calumet river.....	760	8
Seventy-seventh.....	Railroad avenue.....	Coles avenue.....	470	8
Sixty-fifth.....	Cottage Grove ave.....	Langley avenue.....	598	6
Sixty-fifth.....	South Park avenue.....	Champlain avenue.....	1,330	6
†Wabash avenue.....	217 ft. N. of 116th.....	C. & W. Ind. R'y.....	87	6
Total.....			11,798	
Add branch pipe for hydrants.....			182	4
Add branch pipe for hydrants.....			252	6
Total feet of pipe laid in Hyde Park.....			12,177	

* Laid by Deposit.

† Laid by Special Assessment.

LAKE VIEW.

STREET.	FROM	TO	Length of Pipe in feet.	Diameter in inches.
Ainslie	Evanston avenue.....	Eastward.....	277	6
Balmoral avenue.....	Clark.....	Ashland avenue.....	376	6
*Bradley place.....	Alley 1st E. of Robey.....	Eastward.....	240	6
Bradley place.....	Robey.....	Alley 1st E. of Robey.....	166	6
Clark, N.....	Connection.....	Devon avenue.....	19	8
*Clifton avenue.....	Montrose avenue.....	Wilson avenue.....	1,350	6
Clifton avenue.....	Crossing.....	Wilson avenue.....	25	6
Commonwealth avenue.....	Diversey avenue.....	Northward.....	12	6
†Devon avenue.....	Clark.....	Ridge avenue.....	1,676	8
Dewey place.....	Crossing.....	Halsted.....	25	6
Diversey boulevard.....	Commonwealth ave.....	Lake View avenue.....	393	6
Dunning.....	Lincoln avenue.....	Westward.....	128	6
*Poster avenue.....	Leavitt.....	Eastward.....	338	6
*George.....	Ashland avenue.....	Eastward.....	279	6
Hampden court.....	Deming court.....	Northward.....	142	6
Hollywood avenue.....	Clark.....	Eastward.....	270	6
Lake View avenue.....	Wrightwood avenue.....	Southward.....	276	6
*Leavitt.....	166 ft. N. of Brys lawne.....	Northward.....	184	6
Leland avenue.....	Lincoln avenue.....	Westward.....	250	6
Lill avenue.....	Crossing.....	Lincoln avenue.....	40	6
Linden court.....	Diversey boulevard.....	Northward.....	25	6
Montana.....	Crossing.....	Lincoln avenue.....	68	6
*Newport avenue.....	Herndon avenue.....	Southport avenue.....	652	6
Pine Grove avenue.....	Crossing.....	Diversey boulevard.....	84	6
Ridge avenue.....	Connecting.....	Devon avenue.....	12	6
Ridge avenue.....	Crossing.....	Devon avenue.....	23	6
*Robbins terrace.....	Clarendon avenue.....	Eastward.....	556	6
Seminary avenue.....	Grace.....	Southward.....	196	6
Wellington avenue.....	Connecting.....	Evanston avenue.....	47	6
Wellington avenue.....	Evanston avenue.....	Eastward.....	57	8
Wilson avenue.....	Crossing.....	Clifton avenue.....	33	6
Winthrop avenue.....	Crossing.....	Devon avenue.....	84	6
Total.....			8,257	
Add branch pipe for hydrants.....			204	4
Add branch pipe for hydrants.....			180	6
Total feet of pipe laid in Lake View.....			8,641	

* Laid by Deposit.

† Laid by Special Assessment.

TOWN OF LAKE.

STREET.	FROM	TO	Length of Pipe in feet.	Diameter in inches.
Alley 1st S. of Garfield boulevard.	Bishop.....	Loomis.....	308	6
*Ada.....	Fifty-first.....	Fifty-second.....	606	6
Armour avenue.....	Crossing.....	Forty-seventh.....	63	6
Dearborn.....	Crossing.....	Forty-seventh.....	51	6
Fifth avenue.....	Crossing.....	Forty-seventh.....	28	6
Fifty-third.....	Crossing.....	Marshfield avenue.....	28	6
*Forty-second.....	Ashland avenue.....	Paulina.....	707	16
*Forty-second.....	Rockwell.....	Tolman avenue.....	340	6
Forty-fifth.....	157 ft. W. of Western avenue..	Eastward.....	419	6
+Forty-ninth.....	315 ft. E. of Oakley avenue..	Eastward.....	94	6
Forty-ninth.....	Western avenue.....	Eastward.....	901	6
Green.....	Sixty-fifth.....	Sixty-sixth.....	701	6
+Hermitage avenue.....	Fifty-ninth.....	Sixty-first.....	1,328	6
+Hoyne avenue.....	Fifty-first place.....	James.....	325	6
+James.....	Connecting.....	Hoyne avenue.....	42	6
Kerfoot avenue.....	Crossing.....	Vincennes road.....	17	6
Peoria.....	Sixty-fifth.....	Sixty-sixth.....	701	6
Sangamon.....	Crossing.....	Fifty-second.....	47	6
Sangamon.....	Sixty-fifth.....	Sixty-sixth.....	738	6
Sixtieth place.....	Crossing.....	Normal avenue.....	66	6
*Sixty-first.....	Ashland avenue.....	Loomis.....	1,298	6
Sixty-first place.....	Crossing.....	Normal avenue.....	66	6
Sixty-second.....	Crossing.....	Normal avenue.....	67	6
Seventy-third.....	Halsted.....	Emerald avenue.....	329	6
*Seventy-seventh.....	Wentworth avenue..	Stewart avenue.....	1,300	6
*Tolman avenue.....	Forty-second.....	Southward.....	396	6
Tremont.....	Connecting.....	Normal avenue.....	12	6
Vincennes road.....	Lowe avenue.....	Kerfoot avenue.....	498	8
Western avenue.....	Forty-ninth.....	Southward.....	158	6
Total.....			11,624	
Add branch pipe for hydrants.....			300	4
Add branch pipe for hydrants.....			204	6
Total feet of pipe laid in Town of Lake.....			12,128	

* Laid by Deposit.

+ Laid by Special Assessment.

JEFFERSON.

STREET.	FROM	TO	Length of Pipe in feet.	Diameter in inches.
Avers avenue.....	200 ft. N. of Wrightwood ave.	Southward.....	70	6
†Belle Plaine avenue....	Spaulding avenue...	Kimball avenue.....	650	6
†Berteau avenue.....	Spaulding avenue....	Kimball avenue.....	650	6
Costello avenue.....	Hamlin avenue.....	Eastward.....	297	6
Central Park avenue...	290 ft. S. of Dunning.	Southward.....	12	8
Central Park avenue...	Diversey avenue....	1st alley south....	146	8
*Central Park avenue...	Schubert.....	Northward.....	470	8
†Cullom avenue.....	Spaulding avenue....	Kimball avenue.....	654	6
*Dakin.....	N. Fifty-eighth ave..	N. Fifty-ninth ave..	629	6
†Dunning.....	N. Forty-eighth ave.	N. Forty-ninth ave..	635	6
Fifty-fourth avenue, N.	Roberts avenue.....	Lawrence avenue...	388	6
*Fifty-eighth avenue, N.	Irving Park avenue..	W. Dakin.....	346	8
*Fletcher.....	Washtenaw avenue..	Westward.....	274	6
Fortieth avenue, N....	272 ft. S. of Chicago river.	333 ft. N. of Chicago river.	1,330	8
†Forty-first avenue, N...	Armitage avenue....	Humboldt avenue...	1,256	6
*Forty-second avenue, N.	Fullerton avenue....	Belden avenue.....	711	8
†Forty-eighth avenue, N.	Connecting.....	Dunning.....	40	12
*Foster avenue.....	Connecting.....	St. Louis avenue...	30	6
†Francisco avenue.....	200 ft. N. of George	Avondale avenue....	284	6
†George.....	Sacramento avenue..	Whipple.....	334	6
†Hamlin avenue.....	Montrose avenue....	Wilson avenue.....	1,303	8
*Harding avenue.....	School.....	Northward.....	355	6
†Hutchinson avenue....	Spaulding avenue....	Kimball avenue.....	650	6
*Irving Park avenue....	100 ft. W. of N. Fortieth ave.	N. Forty-first avenue	261	8
Irving Park avenue....	N. Forty-first court..	N. Forty-second ave.	367	8
†McLean avenue.....	N. Forty-third ave..	N. Forty-fourth ave.	586	6
*Monticello avenue....	330 ft. N. of Wabasha avenue	Northward.....	268	6
†Pensacola avenue.....	Spaulding avenue....	Kimball avenue.....	651	6
Roscoe.....	Troy.....	Whipple.....	672	8
*School.....	350 ft. W. of Kimball avenue..	Westward.....	378	6
*School.....	Milwaukee avenue..	Harding avenue....	164	6
*Smalley court.....	Dunning.....	Southward.....	363	6
*Smalley court.....	298 ft. S. of Dunning.	Southward.....	139	6
†Springfield avenue....	George.....	Diversey avenue....	321	8
*St. Louis avenue.....	Foster avenue.....	291 ft. N. of Beresya avenue..	985	6
†Sunnyside avenue.....	Hamlin avenue.....	Eastward.....	402	6
Total.....			17,071	
Add branch pipe for hydrants.....			216	4
Add branch pipe for hydrants.....			276	6
Total feet of pipe laid in Jefferson.....			17,563	

* Laid by Deposit.

† Laid by Special Assessment.

CALUMET.

STREET.	FROM	TO	Length of Pipe in feet.	Diameter in inches.
Church.....	Crossing.....	103d.....	30	6
†Eighty-eighth.....	130 ft. W. of May....	Carpenter.....	816	6
Hamilton avenue.....	Crossing.....	103d.....	30	8
†Howard court.....	Ninety-fifth.....	146 ft. S. of Ninety-sixth....	813	6
Hoynes avenue.....	Crossing.....	103d.....	30	6
La Salle.....	Crossing.....	119th.....	46	6
Layton place.....	Crossing.....	Longwood avenue....	30	6
Leavitt.....	Crossing.....	103d.....	71	8
Longwood avenue.....	Crossing.....	103d.....	50	8
†Longwood avenue.....	Ninety-ninth.....	103d.....	2,761	8
†Longwood avenue.....	334 ft. S. of Ninety-fifth....	Ninety-seventh.....	373	6
Loomis.....	Crossing.....	103d.....	28	6
†Lowe avenue.....	Ninety-ninth.....	100th.....	589	6
Lowe avenue.....	Crossing.....	100th.....	71	6
Ninety-ninth place.....	Crossing.....	Butler.....	50	6
100th.....	Crossing.....	Butler.....	50	6
100th place.....	Crossing.....	Butler.....	50	6
101st.....	Crossing.....	Butler.....	30	6
101st.....	Crossing.....	Lowe avenue.....	50	6
101st.....	Crossing.....	Parnell avenue.....	102	6
101st.....	Crossing.....	Wallace.....	102	6
101st place.....	Crossing.....	Butler.....	50	6
104th.....	Center avenue.....	Throop.....	631	6
†109th.....	State.....	Wentworth avenue....	1,297	8
†110th place.....	270 ft. W. of State....	600 ft. E. of Wentworth ave..	408	6
118th.....	State.....	Stewart avenue.....	2,668	10
Throop.....	Crossing.....	104th.....	46	6
Walden parkway.....	Crossing.....	103d.....	76	6
Wentworth avenue.....	Crossing.....	119th.....	69	8
Wood.....	Crossing.....	103d.....	26	8
Total.....			11,441	
Add branch pipe for hydrants.....			108	4
Add branch pipe for hydrants.....			192	6
Total feet of pipe laid in Calumet.....			11,741	

† Laid by Special Assessment.

ROGERS PARK.

STREET.	FROM	TO	Length of Pipe in feet.	Diameter in inches.
Devon avenue.....	Evanston avenue....	C., M. & St. P. R. R.	350	6
*Devon avenue.....	C., M. & St. P. R. R.	Sheridan road.....	980	6
*Sheridan road	Crossing.....	Devon avenue.....	29	6
Total feet of pipe laid in Rogers Park			1,368	

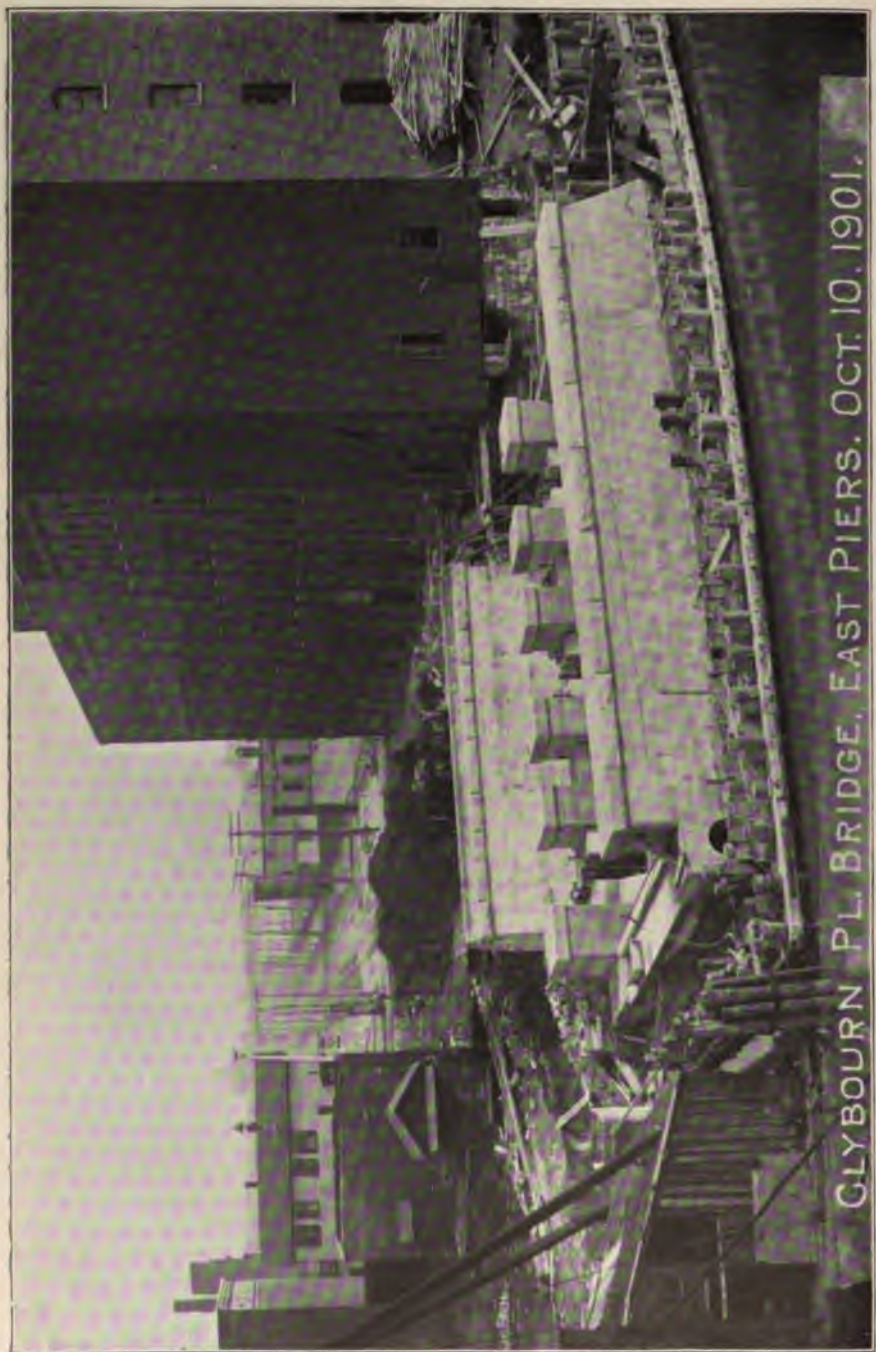
*Laid by Deposit.

RECAPITULATION OF PIPE LAID DURING 1901, INCLUDING HYDRANT BRANCHES.

DIVISION.	DIAMETER OF PIPE IN INCHES.					Total length of Pipe in Feet.
	4-inch.	6-inch.	8-inch.	12-inch.	16-inch.	
North	176	1,504		182		1,862
South.....	24	2,604	245	257		3,134
West	216	24,892	11,926	1,254		38,288
Hyde Park.....	1,134	9,818	1,230			12,177
Lake View.....	204	6,685	1,752			8,641
Lake	300	10,623	498		707	12,128
Jefferson.....	216	11,714	5,593	40		17,563
Calumet.....	108	4,649	4,304		2,668	11,729
Rogers Park		1,368				1,368
Totals	2,378	73,856	25,548	1,733	3,375	106,890

TABLE SHOWING AMOUNT OF PIPE IN THE CITY OF CHICAGO AT
THE CLOSE OF 1901.

DIAMETER OF PIPE.	1900.		1901.		Grand Total in Miles.
	Amount in use in Feet.	Amount taken up or abandoned in Feet.	Amount Laid in Feet.	Grand Total in Feet in use at the close of 1901.	
48	2,873			2,873	0.0213
36	197,641			197,641	3.7271
30	38,291			38,291	7.1211
28	160			160	0.0008
24	346,755			346,755	6.5335
20	7,931			7,931	1.5281
18	1,000			1,000	0.0022
16	301,248		3,375	304,623	5.7363
14	22,552			22,552	4.1442
12	581,700	135	1,733	583,358	11.0212
10	26,860			26,860	5.1456
8	2,052,332	40	25,548	2,077,740	39.3326
6	5,307,847	1,998	73,856	5,379,765	101.8463
4	938,870	9,846	2,378	980,962	18.5212
3	8,996			8,996	1.7213
Totals in Feet..	9,844,516	12,019	106,890	9,978,387	
Totals in Miles..	1,872.754	2.143	20.113	1,890.157	1,890.157



GLYBOURN P.L. BRIDGE, EAST PIERS. OCT. 10, 1901.

DIVISION OF BRIDGES AND VIADUCTS.

MR. THOMAS G. PHILFELDT, Structural Iron Designer in Charge.

During the year 1901 the following plans and specifications were prepared:

For a new bridge over the North branch of the Chicago river at West Division street.

For a temporary bridge at Blackhawk street over the North branch of the Chicago river.

For a pontoon bridge at Canal street over the South branch of the Chicago river.

Plans were also prepared for an electrical equipment for the Madison street bridge. Plans were also made for a proposed elevation of Kinzie and Canal streets to connect with the Milwaukee avenue viaduct.

Plans were drawn up for repairs to the Desplaines street viaduct, repairs to the Chicago avenue and Halsted street viaducts, and repairs to the Twelfth street viaduct and approaches. Plans submitted by the Pennsylvania Railroad Company for the Randolph street viaduct were checked. The entire cost of this viaduct, which was opened for traffic July 30, 1901, was borne by the Pennsylvania Railroad Company.

A viaduct atlas showing plan and cross section of floor systems is being prepared. This work had to be stopped owing to a reduction in the office force.

Supervision of the extensions to the Lake street and the Metropolitan Elevated Railroads, together with the usual miscellaneous work of preparing plans, plats and data for various projects, constituted a portion of the work in this office.

CONSTRUCTION.

Geo. F. SAMUEL, Assistant Engineer.

NINETY-FIFTH STREET BRIDGE.

The contract for a new bascule bridge over the Calumet river at Ninety-fifth street was let June 21, 1900, to Roemheld & Gallery. By January 1, 1901, the curb walls were partially in place on both sides of the river and the piles driven and cut off for the east piers, and some piles driven for the west piers.

Water broke through the cofferdams several times, delaying

the work considerably. After the leaks were stopped, work was resumed, and the masonry of the east piers was started on January 7, 1901, and completed October 19, 1901. The masonry on the west piers was begun on November 2, 1901, and finished December 31, 1901. At the present time the substructure is completed, except the west tail pits.

CLYBOURN PLACE BRIDGE.

The contract for the substructure of the new bascule bridge at Clybourn place was let November 16, 1900, to the Fitz-Simons & Connell Company. The contractors began work on December 10, 1900, and the old superstructure, center pier, and abutments were removed by January 1, 1901. The contractors began driving piles for the west piers on January 11, 1901, and began laying the concrete masonry on May 16, 1901. The west piers were completed by July 1, 1901.

The piles under the west piers were driven to an average depth of 45 feet below datum, and cut off at 21 feet below datum. The excavation was carried to 23 feet below datum. At this depth the material on which the piers rest was found to be a very hard clay or hard pan and was removed by blasting. The contractors began driving the foundation piles under the east piers on January 23, 1901, and began laying the concrete masonry piers on August 8, 1901, and the east piers were completed by October 1, 1901. The entire work called for in this contract was completed by December 19, 1901. Amount of contract \$68,910.74.

The contract for the superstructure was let on February 20, 1901, to the American Bridge Company. The contractor began the work of erecting the west leaf on August 12, 1901, and the east leaf on November 5, 1901. The iron work on the two leaves is practically all in place at the present time, and there remains only the erection of the machinery and floor system to complete this bridge.

The photographs accompanying this report show the progress of construction to date.

EAST DIVISION STREET BRIDGE.

The contract for the new bascule bridge over the North branch canal at East Division street was let to Roemheld & Gallery on July 11, 1900.

By January 1, 1901, the contractors had built three of the four curb walls and driven the piles for the pier foundations.

Considerable delay was caused at this bridge by the difficulty

of keeping the cofferdams free from water. The single wall dams first built proved insufficient and a double dam was then put in. After the excavation was carried down to 15 feet below datum, water leaked through the water pipe tunnel under the river into both dams. The tunnel was bulkheaded off after considerable delay and excavation resumed.

The concrete masonry in the east piers was begun August 24, 1901, and completed by September 20, 1901. The masonry in the west piers was started November 12, 1901, and completed December 3, 1901.

The substructure of this bridge is now completed with the exception of part of the west abutment and curb walls.

REPAIRS AND MAINTENANCE.

MR. THOMAS G. PHILFELDT, Structural Iron Designer in Charge; MR. IVER HOBGEN, Assistant Engineer.

This Division has under its supervision forty-eight movable bridges, fifteen with fixed spans, and thirty-seven systems of viaducts. During the year 1901 five bridges were operated by steam, fourteen by electricity and twenty-nine by hand power.

The following statement shows the amounts expended by the City for repairs and maintenance, exclusive of bridge tenders' salaries, of the various bridges and viaducts as mentioned above during the year 1901:

BRIDGES.

Adams street.....	\$ 1,992.00	N. Halsted street (Canal).....	\$ 748.07
Archer avenue.....	353.81	N. Halsted street (River).....	2,117.67
Ashland avenue (South Fork).....	.75	S. Halsted street.....	8,450.60
Ashland avenue (West Fork).....	329.49	Harrison street.....	475.82
Belmont avenue.....	389.85	Indiana street.....	1,020.01
Canal street.....	55.72	Jackson street.....	1,839.91
Chicago avenue.....	3,739.87	Kinzie street.....	1,736.93
Chittenden avenue.....	361.61	Lake street.....	1,107.16
Clark street.....	2,217.83	Laurel street.....	84.30
Clybourn place.....	39.73	Madison street.....	1,780.34
Dearborn street.....	2,065.72	Main street.....	172.45
Deering street.....	998.15	Ninety-second street.....	544.26
Diversey street.....	161.07	Ninety-fifth street.....	7.50
E. Division street.....	647.65	North avenue.....	1,285.57
W. Division street.....	1,105.25	106th street.....	34.75
Eighteenth street.....	8,193.47	Polk street.....	642.47
Erie street.....	695.54	Randolph street.....	509.44
Buller street.....	682.91	Riverdale.....	35.70
Fullerton avenue.....	2,265.61	Rush street.....	9,708.15

State street.....	\$ 1,408.01	Wells street.....	\$ 14,049.91
Taylor street.....	2,527.99	N. Western avenue.....	1,365.49
Twelfth street.....	8,941.08	S. Western avenue.....	259.28
Twenty-second street.....	2,041.29	Kedzie avenue (Span Bridge).....	174.88
Thirty-fifth street.....	320.52	Steamer Hopkins.....	1,427.68
Van Buren street.....	2,499.88	General account.....	17,687.62
Washington street.....	1,169.78		
Webster avenue.....	628.24	Total.....	\$118,682.78
Weed street.....	4.00		

VIADUCTS.

N. Ashland avenue.....	\$ 29.13	Polk street.....	\$ 7.60
Clark street.....	259.71	Sangamon street.....	118.34
Desplaines street.....	2,619.73	Twelfth street.....	391.59
Eighteenth street.....	273.76	Thirty-fifth street.....	9.76
Grand avenue.....	809.56	N. Western avenue and Kin-	
Halsted street and Chicago		zie street.....	1,457.31
avenue.....	5,042.40		
Halsted and Sixteenth streets.....	9.89	Total.....	\$ 11,102.81
Halsted and Fortieth streets.....	41.70		
Milwaukee avenue.....	48.84	Grand total.....	\$124,785.59
Ogden avenue.....	483.49		

The following statement shows the character and extent of the repairs made to the various bridges and viaducts during the year 1901:

BRIDGES.

ADAMS STREET BRIDGE.—The turntable of this bridge has received a general overhauling, the sidewalks have been partly relaid, and the hand-rail repaired.

ARCHER AVENUE BRIDGE has had sidewalks and chord cover repaired in a substantial manner.

ASHLAND AVENUE BRIDGE (over the West fork of the Chicago river) was extensively repaired, new abutments having been constructed.

BELMONT AVENUE BRIDGE received three new floor beams, as well as one new end circle beam, and had sidewalks and hand-rail repaired.

CHICAGO AVENUE BRIDGE.—The new pier protection, the construction of which was commenced last year, has been finished; new steel rail has been fastened to the drum, and sidewalks, chord cover and planking of roadway repaired.

CHITTENDEN BRIDGE.—Pontoon scow was put in a serviceable state.

CLARK STREET BRIDGE has had the pier protection strengthened,

new lock system on both abutments has been put in, and roadways of bridge have been repeatedly repaired. New sidewalks have been laid and new hand-rail built on north approach.

DEARBORN STREET BRIDGE.—The entire roadway was replanked by the Chicago Union Traction Company. New circle planks, new steel rails for end circle and new end rollers were put in by the City force.

DEERING STREET BRIDGE received new circle planks and had roadway repaired.

DIVERSEY STREET BRIDGE.—The roadway was replanked and the old walks repaired.

WEST DIVISION STREET BRIDGE.—The bottom chord was strengthened, and one new bridge seat and new end rollers were put in. The sidewalks were repeatedly repaired.

EIGHTEENTH STREET BRIDGE.—New boilers were installed, new center pier protection built, and repairs made to sidewalks and roadways.

ERIE STREET BRIDGE received new end circle planks, one new end circle rail and new end rollers. Sidewalks were renewed and roadway repaired.

FULLER STREET BRIDGE.—New approaches were built and the old upper turntable rail was replaced by a new one.

FULLERTON AVENUE BRIDGE received extensive repairs to pier protection. The approaches were strengthened by means of new timber bents, and sheet piling was driven on east side to hold back the filling under approach.

NORTH HALSTED STREET BRIDGE (Canal).—New end rollers and one new bridge seat were put in.

NORTH HALSTED STREET BASCULE BRIDGE.—The track girders were raised and leveled.

SOUTH HALSTED STREET LIFT BRIDGE was supplied with new hoisting cable. Extensive repairs were made to the machinery, as well as to the roadways and sidewalks. The counterweights were increased. Part of the structure received one coat of paint.

INDIANA STREET BRIDGE.—A new bridge protection was finished, new end rollers put in, and the support for bridge house strengthened.

JACKSON STREET BRIDGE.—The roadways, sidewalks and chord covers were repaired and the turntable received a general overhauling.

KINZIE STREET BRIDGE was entirely redecked, both approaches strengthened, and new end rollers and end circle rails put in.

LAKE STREET BRIDGE was repaved, as were also both approaches.

MADISON STREET BRIDGE received one new end circle plank and had its drum repaired.

NINETY-SECOND STREET BRIDGE was supplied with a new set of end rollers, the locks were repeatedly repaired, new sidewalks laid, and both approaches strengthened.

NORTH AVENUE BRIDGE.—New braces (two main and two counter) were put in. This bridge was also supplied with new end rollers and one new bridge seat. Sidewalks and chord cover were also repaired.

ONE HUNDRED AND SIXTH STREET BRIDGE.—New set of turntable wheels was put in.

POLK STREET BRIDGE.—Bottom chord was strengthened. Sidewalks were repaired, as well as hand-rail. The locks were repeatedly repaired.

RUSH STREET BRIDGE.—The entire new protection was rebuilt. The spider rods connecting the shaft and the brake wheel were repaired.

STATE STREET BRIDGE was supplied with new spider rods, new end circle rails, and turntable wheels.

TAYLOR STREET BRIDGE.—The machinery received a general overhauling and repairs were made to east tail pits.

TWELFTH STREET BRIDGE.—The roadways, sidewalks and chord cover were patched repeatedly. New circle planks were put in and the machinery and boiler repaired. Piles were driven for new center pier protection.

THIRTY-FIFTH STREET BRIDGE.—The roadways and sidewalks were patched, the locks repaired and the turntable overhauled.

TWENTY-SECOND STREET BRIDGE.—The center pier was remodeled and both approaches raised and strengthened by additional timber bents.

VAN BUREN STREET BRIDGE.—The bad leaks in the east tail pits were stopped. The machinery was overhauled and the counterweights increased.

WASHINGTON STREET BRIDGE received new circle planks and a new oak segment for the rack.

WEBSTER AVENUE BRIDGE.—The locks were repaired and one new bridge seat put in.

WELLS STREET BRIDGE. New center pier protection, the most substantial of any City bridge, is being built at the present time, the east half having been finished and the west half being well under way. The roadways and sidewalks of this bridge were also repaired.

NORTH WESTERN AVENUE BRIDGE.—Both approaches were replanked, also part of the bridge roadway.

SOUTH WESTERN AVENUE BRIDGE.—The sidewalks of the bridge and approaches were repaired.

In addition to the above mentioned repairs, a large number of lesser repairs were made upon these and other bridges, every bridge within the City's limits having received some repairs during the year.

About one hundred and twenty collisions of boats with the various bridges occurred during the year, incurring the expenditure of a large amount of labor and material to repair the damage done by same.

The steamer "Hopkins" was entirely remodeled; it was lengthened and its machinery put in a serviceable state.

REPAIRS TO VIADUCTS.

OGDEN AVENUE VIADUCT. The part of the viaduct spanning the tracks of the Chicago & North Western Railway had its sidewalks and chord covers renewed.

NORTH WESTERN AVENUE RAILWAY VIADUCT.—Both roadways over the tracks of the Chicago, Milwaukee & St. Paul and the Chicago & North Western Railway companies were entirely renewed. Some of the iron joists in the floor system were replaced by wooden ones.

CHICAGO AVENUE AND HALSTED STREET VIADUCTS (over the Chicago & North Western Railway tracks).—New sidewalks were laid by the City force and new iron hand-rail built by contract.

GRAND AVENUE VIADUCT (over the tracks of the Chicago & North Western Railway).—New sidewalks were laid.

MILWAUKEE AVENUE VIADUCT (over the tracks of the Chicago & North Western Railway).—A portion of the iron railing was renewed.

DESLAINES STREET VIADUCT (over the Chicago and North Western Railway tracks).—The sub-planking and paving of the roadways were renewed and part of the iron hand-rail repaired.

TAYLOR STREET VIADUCT (between Taylor and Polk streets).—At

present this viaduct is undergoing repairs, the work being done by the Chicago Union Traction Railway Company.

Other important repairs on viaducts were made by the different railway companies at their own expense. The work of patching, however, was done by this Division.

DIVISION OF HARBORS.

This Division has supervision over the Harbor of the City of Chicago, which consists of the Chicago river, its branches and slips, the Calumet river, its forks and branches and adjacent slips, and Lake Michigan from the north to the south boundary lines of the City produced into the lake for a distance of three miles, and for a distance of five miles beyond this latter line Sanitary jurisdiction extends.

RICHARD O. S. BURKE, Harbor Engineer in Charge; CAPT. JOHN MCCARTHY, Harbor Master; THOMAS J. ELLERKIN, Vessel Dispatcher.

During the year 1901 the following dock work was done under permits from the City. Fees for the same, based on Section 1640 of the Revised Code of 1897, as amended by ordinance of March 7, 1898, were paid to the City Comptroller to the amounts herein stated, viz.:

CHICAGO RIVER.

5 permits construction of 2,575.89 lineal feet of dock.....	no fees
44 permits rebuilding 9,949 lineal feet of dock.....	\$2,485.00 fees
12 permits repairing 2,167 lineal feet of dock.....	270.87 "

CALUMET RIVER.

2 permits construction of 2,050 lineal feet of dock.....	\$ 74.50 fees
6 permits rebuilding 2,026.2 lineal feet of dock.....	506.55 "

LAKE MICHIGAN.

3 permits construction of 1,194 lineal feet of dock or bulkhead..	\$ 73.50 fees
6 permits repairing 2,275 lineal feet of dock.....	284.38 "
11 miscellaneous permits.....	15.00 "

SUMMARY OF DOCK WORK.

10 permits 5,819.89 feet construction.....	\$ 148.00 fees
50 permits 11,975.2 feet rebuilding.....	2,991.55 "
18 permits 4,442 feet repairing.....	555.25 "
11 miscellaneous permits.....	15.00 "
Totals, 89 permits 22,237 feet.....	\$3,709.80 fees

The fee for permit No. 649, amounting to \$87.50, and that for permit No. 650, being \$25.00, which accompanied the application in each case, were received by the City Comptroller, and, as no permit

was issued for the work by the City because the location of the line required by the applicants was out in the water area of the harbor, these applicants are entitled to a return of the fees paid.

In addition to the foregoing, the City, under contract with Fitz-Simons & Connell Company, rebuilt the dock on the south side of the main Chicago river next east of Rush street at a cost of \$3,290.37. The work included the reconstruction of the sidewalk and the repaving of that part of River street taken up to admit of proper anchorage for the dock front. This River street dock is rented by the Goodrich Transportation Company at the rate of \$5,000 per year.

The decrease in the amount of fees for dock construction on the Calumet river, as compared with the feet of new dock built, arose from an order in Council under which permits Nos. 648 and 665 were issued at a reduced rate. No fees are charged for permits for the dock or dredging work done by the United States, the Sanitary District of Chicago or the Park Boards.

Of the new docks constructed, the Sanitary District built 1,528 feet along the water line of portions of the Chicago river where land was cut off to widen the river to the required 200 feet.

DREDGING DURING THE YEAR.

CHICAGO RIVER AND LAKE MICHIGAN.

Private work, twenty-nine permits, removing 128,000 cubic yards,	
fees	\$512.00
Sanitary District, nineteen permits, removing 600,000 cubic yards,	
no fee.	
United States, five permits, removing 668,820 cubic yards, at	
\$48,652.52, no fee.	
South Park, one permit, no fee.	

CALUMET RIVER AND LAKE CALUMET.

Private work, twenty permits, removing 176,000 cubic yards, fees.	\$704.00
Calumet Lake, one permit, removing 24,000 cubic yards, no fee.	

being total excavation of 1,596,820 cubic yards; seventy-five dredging permits, and \$1,216.00 for fees for private work.

The material removed from Lake Calumet was used for purposes of manufacture. The dredging done by the United States was in the mouth of the Chicago river and in the "Inner basin"; that performed by the contractors of the Sanitary District was along the South branch and its forks, including the portions of land at

narrow places in the river which were cut off to secure a width of 200 feet of waterway.

In addition to the foregoing dredging, 6,927 cubic yards of sewage deposit was removed from Slip "A" by Lydon & Drews Company under contract with the Bureau of Sewers. This material was deposited by a 9-foot sewer, which enters the slip at its north end, west of Ashland avenue pumping works.

The bottom of the channel of the East or South fork of the South branch between Thirty-fifth street and the Wabash elevator was improved, the contractor having drilled and blasted the rock for a width of 60 feet and a length of 450 feet and removed the same to a grade of 21 feet below City datum. Contract price, \$6.35 per cubic yard.

On July 21st the Lydon & Drews Company commenced work on the contract with the Sanitary District to dredge the Chicago river to a depth of 26 feet.

Because of the current in the South branch of the Chicago river, many claims have been presented to the Sanitary District—the Algeria, the Bulgaria, the Amazon, and notice of suit by the Omaha Packing Company was filed with the Sanitary District January 30, 1901, to the amount of \$9,869.11, "by reason of the Sanitary District of Chicago changing and increasing the current of the Chicago river and especially undermining the docks and building walls of property belonging to the Omaha Packing Company just west of the bridge at South Halsted street over the Chicago river."

The work of improving the North branch of the Chicago river from Belmont avenue to Lawrence avenue is not yet entered on by the Trustees of the Sanitary District. The center line of the new channel, as described by ordinance of June 26, 1899, leaves the old water course at a point 3,274.75 feet west of intersection of center lines of Lawrence and Western avenues; the center line of new channel makes an angle of $53^{\circ} 38' 40''$ with the center line of Lawrence avenue at the southeast of their intersection. Plans for a pumping station for the outfall of Lawrence avenue intercepting sewer, produced last November, show that station located on a tract of land along this new channel.

ELEVATION OF LAKE MICHIGAN.

The lake level during 1901 was a slight improvement upon that of the preceding year, the mean elevation of the lake being thirty-nine-hundredths (0.39) of a foot above City datum. There were

ninety-nine days in the months of January, February, March, April, October, November and December when the elevation of the lake at the Two-mile crib went below City datum. Throughout the year there were 198 days when the elevation of the lake surface at the same crib went as high as 6 inches above datum.

From a consideration of the facts set forth in the table of precipitation, mean temperature and mean barometric pressure over the basin of the upper lakes, no hopes can be entertained for an improvement of the lake condition during the present year, unless a material increase in precipitation and a decrease in mean temperature result over the lake basin. Should such results not be reached, the elevation of the lake for the present year will be lower than for the year 1901.

TABLE SHOWING ELEVATION OF SURFACE OF LAKE MICHIGAN, IN FEET, REFERRED TO CITY DATUM BY MONTHS, YEAR 1901, FROM OBSERVATIONS TAKEN AT TWO-MILE CRIB.

MONTHS	Max.	Min.	Mean.	Range.	REMARKS.			
January.....	0.60	-0.90	0.13	1.50	Max. Jan. 10;	Min. Jan. 3.		
February.....	0.80	0.60	0.07	1.40	" Feb. 3;	" Feb. 24.		
March.....	0.90	-0.90	0.07	1.80	" March 10;	" March 3.		
April.....	1.00	-0.10	0.42	1.10	" April 21;	" April 4.		
May.....	1.60	0.20	0.72	1.40	" May 24;	" May 11.		
June.....	1.10	0.40	0.52	0.70	" June 15;	" June 6.		
July.....	1.70	0.20	0.88	1.50	" July 25;	" July 9.		
August.....	1.50	0.60	0.94	0.90	" August 30;	" August 9.		
September.....	1.50	0.20	0.73	1.30	" Sept. 7;	" Sept. 16.		
October.....	0.90	-0.30	0.87	1.20	" October 12;	" October 31.		
November.....	0.80	-0.30	0.15	1.10	" Nov. 7;	" Nov. 24.		
December.....	0.60	-0.80	-0.08	1.40	" Dec. 29;	" Dec. 22.		
1901.....	1.70	-0.90	0.39	2.60	" July 25;	" Jan. 3.		

TABLE SHOWING PRECIPITATION AND MEAN TEMPERATURE AND MEAN BAROMETRIC PRESSURE (ACTUAL) IN INCHES AND IN DEGREES FAHR., OVER THE BASIN IN UPPER LAKES, AND MEAN WATER IN LAKE MICHIGAN IN INCHES, BY YEARS, FROM 1871 TO 1901, BOTH INCLUSIVE, WITH THE ANNUAL INCREASE OR DECREASE.

Year	BASIN OF UPPER LAKES.									LAKE MICHIGAN.		
	Precipitation	Difference with Preceding Year		Mean Temp.	Difference with Preceding Year		Pressure.	Difference with Preceding Year		Levels of Mean Water	Difference with Preceding Year	
	Inches	Inc.	Dec.	Deg's.	Inc.	Dec.	Inches	Inc.	Dec.	Inches	Inc.	Dec.
1871	30.75			47.2			29.26			21.24		
1872	29.59		1.16	44.2		3.0	29.26	0.00	0.00	9.62		11.62
1873	32.49	2.90		44.3	0.1		29.25		.01	16.80	7.18	
1874	29.56		2.93	46.8	2.0		29.31	.06		20.04	3.24	
1875	33.06	3.50		42.0		4.3	29.26		0.5	17.40		2.64
1876	28.93		4.13	45.1	8.1		29.25		0.1	30.72	13.32	
1877	36.23	7.30		47.5	2.4		29.28	.03		27.72		3.60
1878	38.35	2.12		49.2	1.7		29.23		.06	24.00		3.72
1879	35.51		2.84	46.5		2.7	29.30	.08		12.72		11.28
1880	38.36	2.85		47.0	0.5		29.28		.02	13.92	1.20	
1881	42.42	4.06		47.1	0.1		29.29	.01		15.12	1.20	
1882	37.28		5.14	48.2	1.1		29.29	.00	.00	24.00	8.88	
1883	32.66		4.62	44.4		3.8	29.28		.01	25.20	1.20	
1884	34.31	1.65		46.2	1.8		29.28	.00		26.88	1.68	
1885	32.99		1.32	43.8		2.4	29.26		.02	28.56	1.68	
1886	30.56		2.43	45.8	2.0		29.28	.02		31.68	3.12	
1887	29.63		0.93	45.5		0.3	29.29	.01		23.52		8.16
1888	27.57		2.06	43.8		1.7	29.31	.02		15.60		7.92
1889	28.65	1.08		45.9	2.1		29.29		.02	9.24		6.36
1890	34.58	5.93		46.0	0.1		29.30	.01		7.56		1.68
1891	29.62		4.96	46.4	0.4		29.30	.00	.00	0.60		6.96
1892	34.15	4.53		44.7		1.7	29.31	.01		-2.04		2.64
1893	31.46		2.69	43.8		0.9	29.29		.05	-2.35		0.31
1894	29.51		1.95	46.9	3.1		29.29	.02		6.00	8.35	
1895	26.08		3.48	44.9		2.0	29.26	.01		-5.88	0.00	11.88
1896	31.59	5.56		46.1	1.2		29.30	.01		-6.96	0.00	1.08
1897	30.36		1.23	45.9		0.2	29.31	.01		-8.96	10.92	
1898	31.32	0.96		46.2	0.3		29.27		.04	-5.64	1.68	
1899	29.26		2.06	44.7		1.5	29.31	.04		-6.36	.72	
1900	31.25	1.99		46.7	2.0		29.31			-1.44		4.92
1901	26.88		4.37	45.0		1.7	29.27		.04	-4.68	3.24	

**MAXIMUM, MINIMUM AND MEAN ELEVATION (IN FEET) OF WATER
IN LAKE MICHIGAN FOR EACH YEAR FROM
1854 TO 1901, INCLUSIVE.**

Referred to City Datum (Low Water of 1847.)

LAKE MICHIGAN.				LAKE MICHIGAN.			
YEAR.	Maximum.	Minimum.	Mean.	YEAR.	Maximum.	Minimum.	Mean.
1854.....			1.83	1878.....	3.14	0.51	2.00
1855.....	3.45	0.15	1.56	1879.....	2.51	-0.49	1.06
1856.....	3.05	0.42	1.60	1880.....	2.81	-0.99	1.16
1857.....	4.35	0.60	2.42	1881.....	3.01	-2.19	1.26
1858.....	4.69	1.33	2.00	1882.....	3.01	-0.99	2.00
1859.....	4.45	1.31	2.98	1883.....	3.81	-0.99	2.10
1860.....	3.53	1.30	2.54	1884.....	3.31	-0.01	2.24
1861.....	4.40	1.20	2.56	1885.....	3.71	-0.01	2.48
1862.....	3.30	0.70	2.50	1886.....	4.41	0.01	2.64
1863.....	3.30	-0.80	2.10	1887.....	3.11	0.01	1.96
1864.....	2.80	-0.40	1.57	1888.....	3.91	0.01	1.80
1865.....	3.06	-1.08	1.30	1889.....	2.51	-0.79	0.77
1866.....	2.50	0.00	1.07	1890.....	2.21	-0.99	0.63
1867.....	2.60	-0.41	1.49	1891.....	1.61	-2.39	0.05
1868.....	2.58	-1.00	1.01	1892.....	1.80	-3.60	-0.17
1869.....	2.13	0.41	1.13	1893.....	1.70	-0.30	0.69
1870.....	3.25	-0.30	2.09	1894.....	1.80	-1.80	0.50
1871.....	2.80	-0.40	1.77	1895.....	0.00	-1.57	-0.49
1872.....	1.80	0.74	0.81	1896.....	0.00	-1.70	-0.58
1873.....	2.70	-0.76	1.40	1897.....	1.60	-1.80	0.33
1874.....	2.80	0.20	1.67	1898.....	1.09	-1.25	0.47
1875.....	3.01	0.34	1.45	1899.....	2.10	1.50	0.53
1876.....	4.31	0.34	2.56	1900.....	1.20	-1.60	0.12
1877.....	3.56	1.04	2.31	1901.....	1.70	0.90	0.89

WORK BY THE UNITED STATES.

No dredging was done during the year for the purpose of "deepening the channel." For the widening of the Chicago river two tracts were cut off; tract No. 2 south of Eighteenth street, and tract No. 8 between Fuller and Hickory streets. In the aggregate, the work of these tracts is:

Land removed.....	21,670 cubic yards.
Dock built.....	679 feet.

Total cost of this improvement, including purchase of land and work, \$54,394.07. The contract for this work was completed August 30, 1901. The cost of all the tracts of land cut off by the United States to improve the Chicago river is as follows:

For purchase of land.....	\$ 91,949.50
For removal of land	21,066.24
For construction of docks	90,772.94
Total.....	<u>\$203,788.68</u>

The dredging by the United States has been carried to a depth of about 21 feet below Chicago datum. That done in the Chicago river goes to 17 feet below City datum, and this depth has been carried to a distance of 15 feet from each dock.

CALUMET HARBOR.

No dredging has been done by the United States during the year. The new breakwater running due east and west from the Illinois Steel Company's north pier has been completed, including superstructure and decking, for a distance of 3,400 lineal feet. In addition, cribs have been sunk for a distance of 600 lineal feet. No other dock work was done by the United States in the Calumet river or the harbor.

The cost of the work done on the Calumet harbor breakwater to date is as follows:

Done in 1900	\$140,893.88
Done in 1901	145,431.52
Total to date	<u>\$286,325.40</u>

exclusive of superintendence, office expenses, etc.

In the Calumet river no work of any kind has been done by the United States in 1901.

In addition to the improvements by widening carried out in many places in the North and South branches of the Chicago river, at the cost of

the United States and the Sanitary district, an improvement of a most important character has been accomplished in the construction by the Ship-owners' Dry Dock Company of a dry dock of such dimensions as will admit of the docking of the largest vessels engaged in the lake trade. This large dry dock, with the other two in the yards of this company and full equipment for building vessels as large as any now on the lakes, will complete this improvement so long a necessity to the northern harbor of our city.

WHARFING PRIVILEGES.

In addition to the rental of \$5,000 paid by the Goodrich Company for the use of the River street dock, the following wharfing privileges are rented by the City for the sums herein stated:

Eastman street, East side	\$200 per year.
Sangamon street, South side	500 " "
Lake street, East side	100 " "
Orleans street, North side	500 " " and repairs.
Fifth avenue, South side	120 " "
Dock street, South side	200 " " " "
Lime street, South side	150 " " " "

In compliance with the directions of the City Engineer of December 18, 1901, a full report was made of all street ends in the Chicago river and its branches, and on the Calumet river and its forks, which are occupied by private concerns without paying any rent to the City. The report showed forty street ends on the Chicago river and branches so occupied by commercial concerns or railroads, and two such occupations on the Calumet river.

COMMERCE BY LAKE.

While the official returns show a material decrease in number and tonnage of vessels for this port, the reports of the traffic of the great lakes show an enormous volume of business done during the course of the year. The bulk of the lake traffic is, however, confined to eight months of the open season. The figures for the year 1901 show that there were received at the various lake ports:

Barrels of flour	14,357,020
Bushels of grain	141,586,027
Net tons of coal	9,205,764
Gross tons of ore, copper and other minerals	20,792,699
Feet of lumber and logs	2,475,430,000
Tons of unclassified freight	4,237,756

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TONNAGE OF THE DISTRICT OF CHICAGO, 1901.

ENTERED AT	FROM AMERICAN PORTS.		FROM FOREIGN PORTS.		TOTALS.	
	Vessels	Tonnage.	Vessels	Tonnage.	Vessels	Tonnage.
Chicago	6,710	4,474,979	134	173,444	6,844	4,648,423
South Chicago	1,242	2,102,092	22	32,995	1,264	2,135,087
Michigan City	252	61,309			252	61,309
Waukegan	70	56,180			70	56,180
Totals	8,274	6,694,560	156	206,439	8,430	6,900,999

CLEARED FROM	TO AMERICAN PORTS.		TO FOREIGN PORTS.		TOTALS.	
	Vessels	Tonnage.	Vessels	Tonnage.	Vessels	Tonnage.
Chicago	6,607	4,331,153	215	245,963	6,822	4,577,116
South Chicago	1,292	2,203,966	52	70,312	1,344	2,274,278
Michigan City	252	60,646			252	60,646
Waukegan	53	18,843			53	18,843
Totals	8,204	6,614,608	267	316,275	8,471	6,930,883

CITY OF CHICAGO SUMMARY OF COMMERCE BY LAKE. 1901.

ENTRANCES.		No.	Tons.
Chicago river		6,844	4,648,423
Calumet river		1,264	2,135,087
Total		8,108	6,783,510
CLEARANCES.			
Chicago river		6,822	4,577,116
Calumet river		1,344	2,274,278
Total		8,166	6,851,394
Grand total		16,274	13,634,904
Average cargo Chicago river		675 tons	
Average cargo Calumet river		1,691 tons	
Average cargo City of Chicago		839 tons	

Of the above tonnage the Chicago river received 67.7 per cent and the Calumet river 32.3 per cent.

During the year the number of vessels entering the Chicago river decreased 5.27 per cent from that for 1900, being a decrease of 760 vessels, while the tonnage of the Chicago river decreased still more, viz.: 7.43 per cent, or 740,543 tons less than 1900, proving a great decrease in the average cargo for the Chicago river, many large vessels having taken our southern port.

THE CALUMET RIVER.

This river shows a better condition, the number of vessels having materially increased, as well as the average cargo, which latter reached 1,691 tons, 113 tons over 1900, while the total tonnage of the Calumet river gained 9.55 per cent on that for the preceding year, a gain of 384,553 tons.

The following table gives the number of vessels, total tonnage and average cargo for the Chicago river and the Calumet river, by years, since 1890, the year following annexation. There can be no stronger argument in support of the removal or lowering of the tunnels and the widening of the channels at the bridges, now obstructions to the natural development of the commerce of our City, than that presented by the facts of this table. The Calumet river offering its deep and wide harbor to the larger class of vessels has prevented a more decided loss in our annual commerce than that which the City has experienced.

STATEMENT OF ENTRANCES, CLEARANCES, TONNAGE AND AVERAGE CARGOES OF CHICAGO RIVER AND CALUMET RIVER, BY YEARS, FROM 1890 TO 1901, INCLUSIVE.

YEAR.	CHICAGO RIVER.			CALUMET RIVER.		
	Vessels.	Tons.	Average Cargo.	Vessels.	Tons.	Average Cargo.
1890.....	18,472	8,774,156	475	1,661	1,341,895	808
1891.....	18,100	9,267,846	512	1,581	1,595,052	1,009
1892.....	18,325	9,770,457	533	2,052	2,009,936	980
1893.....	16,073	9,807,434	610	971	980,595	1,010
1894.....	14,697	8,687,044	591	1,505	1,597,134	1,061
1895.....	15,324	9,188,330	600	2,908	3,442,841	1,184
1896.....	14,256	9,566,772	667	2,743	3,459,040	1,261
1897.....	15,170	10,608,873	700	2,695	3,668,362	1,361
1898.....	15,387	10,751,880	699	3,125	4,364,546	1,397
1899.....	13,879	9,108,394	656	2,295	3,490,845	1,521
1900.....	14,426	9,966,082	691	2,550	4,024,812	1,578
1901.....	13,666	9,225,539	675	2,608	4,409,365	1,691

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TONNAGE OF THE DISTRICT OF CHICAGO, 1901.

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	Vessels	Tonnage.	Vessels	Tonnage.	Vessels	Tonnage.
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Totals	8,274	6,694,560	156	206,439	8,430	6,900,999

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Grand total		16,274	13,634,904
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Average cargo Calumet river		1,691	tons
Average cargo City of Chicago		839	tons

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SOUTH CHICAGO—COASTWISE SHIPMENTS—1901.

ARTICLES.	Quantity.	ARTICLES.	Quantity.
Unclassified.....tons	20,020	Oats.....bush.	4,412,650
Flour.....bbls.	2,850	Barley....."	50,148
Wheat.....bush.	8,599,139	Oil.....bbls.	102,400
Corn....."	12,465,621	Manufactured iron...tons.	12,040

SOUTH CHICAGO—COASTWISE RECEIPTS—1901.

ARTICLES.	Quantity.	ARTICLES.	Quantity.
Unclassified.....tons.	2,315	Grain.....bush.	240,000
Lumber.....M	56,165	Coal.....tons.	185,165
Shingles.....M	2,815	Salt.....bbls.	1,385,360
Posts.....pieces.	131,250	Iron Ore.....tons.	2,659,085
Ties....."	164,255	Manufactured Iron.."	970
Poles....."	69,400	Plaster.....bbls.	222,460

EXPORTS BY LAKE—1901.

COMMODITIES.	Quantity.	Value.
Corn.....bush.	3,213,681	\$1,508,137
Flaxseed....."	233,002	362,225
Oats....."	565,605	167,296
Rye....."	209,520	112,441
Wheat....."	4,943,985	3,562,438
Flour.....bbls.	17,545	60,117
Pork....."	7,595	113,910
Lard.....tes.	4,550	131,001
Manufactured Iron.....tons.	20,120	467,249
Lumber.....M	1,498	30,621
Agricultural Implements.....parts	11,323	193,448
Cured Meats.....boxes	1,015	51,192
Oil Cake.....sacks	18,129	72,595
Unclassified.....tons	5,570	221,043
Total value.....		\$7,053,713

Of the above 25 per cent was carried in foreign bottoms.

CHICAGO — COASTWISE RECEIPTS — 1901.

ARTICLES.	Quantity.	ARTICLES.	Quantity.
Unclassified mdse..... tons	616,535	Manufactured iron..... tons	17,800
Canned goods..... "	1,263,963	Sugar..... bbls.	1,100,306
Groceries..... "	478,275	Syrup..... "	8,640
Lumber..... M.	663,008	Flour..... "	50,156
Shingles..... "	85,250	Potatoes..... bush.	467,045
Lath..... "	4,567	Cheese..... pkgs.	13,625
Posts..... pieces	1,204,435	Fish..... tons	2,237
Ties..... "	1,866,486	Copper..... bars	63,940
Poles..... "	77,040	Sulphur..... bbls.	17,480
Wood..... cords	12,760	Plaster..... "	88,434
Coal..... tons	877,240	Cement..... "	660,742
Shoes..... boxes	272,795	Asphalt..... "	62,460
Salt..... bbls.	1,383,035	Hides..... bales	8,354
Iron ore..... tons	73,675	Grain..... bush.	515,100

CHICAGO — COASTWISE SHIPMENTS — 1901.

ARTICLES	Quantity.	ARTICLES.	Quantity.
Unclassified mdse..... tons	310,133	Lard..... tierces	48,753
Flour..... bbls.	1,018,225	Sugar..... bbls.	49,269
Wheat..... bush	19,021,742	Syrup..... "	12,700
Corn..... "	18,040,126	Groceries..... tons	60,183
Oats..... "	9,500,022	Canned goods..... pkgs.	147,514
Flaxseed..... "	303,570	Cured meats..... boxes	12,380
Rye..... "	190,842	Pork..... bbls.	19,600
Barley..... "	135,810	Beef..... "	2,025
Grass seeds..... sacks	39,160	Broom corn..... bales	3,506
Millstuffs..... "	698,237	Manufactured iron..... tons	12,270
Glucose..... bbls.	36,576	Hides..... bales	45,895
Malt..... sacks	97,874	Leather..... "	17,070
Oil cake..... sacks	120,916	Tallow..... bbls.	17,665
Bullion, lead, etc..... bars	311,303	Wool and hair..... sacks	22,500

VESSELS BUILT IN DISTRICT OF CHICAGO, 1901.

CLASS.	NAME.	Built of	Tons.	Cost.
Propeller.....	F. B. Wells.....	Steel	3,630	\$ 800,000
Propeller.....	F. T. Heffelfinger.....	Steel	3,630	800,000
Propeller.....	Mary C. Elphicke.....	Steel	3,967	300,000
Propeller.....	Northeastern.....	Steel	1,496	180,000
Propeller.....	Northman.....	Steel	1,496	180,000
Propeller.....	Northtown.....	Steel	1,496	180,000
Propeller.....	Northwestern.....	Steel	1,496	180,000
Propeller.....	W. R. Brown.....	Steel	3,967	275,000
Propeller.....	Carter H. Harrison.....	Wood	8	8,000
Sloop.....	Helena.....	Wood	5	1,000
Propeller.....	.....	Wood	38	4,500
Sloop.....	.....	Wood	5	1,000
Steam yacht.....	.....	Wood	66	22,500
Total.....			21,244	\$1,917,500

MOVEMENTS OF VESSELS IN CHICAGO RIVER.

BRIDGES.	Days in Service.	NUMBER.			AVERAGE.				PERCENTAGE OF TIME.	
		Hours Open.	Vessels Passed.	Swings of Bridges. per Day.	Number of Vessels per Day.	Number of Swings per Day.	Time Open per Swing. in Minutes.	Time Open per Hour. in Minutes.	Closed.	Open.
Rush street	261	324 43	9,656	8,118	36.00	31.10	2.39	3.11	74.33	5.18
Dearborn street	102	89 40	2,816	2,030	22.70	19.90	2.64	2.19	52.59	3.65
Wells street	261	265 38	6,952	5,965	26.63	22.96	2.65	2.54	61.00	4.24
Lake street	261	242 27	5,531	4,647	21.19	17.80	3.12	2.82	55.69	3.57
Harrison street	152	160 25	3,441	2,829	23.63	18.61	3.39	2.63	63.25	4.40
Twelfth street	259½	253 13	5,130	4,357	19.76	16.78	3.48	2.43	58.52	4.06
Eighteenth street	290½	168 04	4,219	3,633	16.19	13.94	2.46	1.59	38.25	2.66
Twenty second street	245	224 65	4,297	3,759	17.53	15.84	3.58	2.29	55.01	3.82
Kinzie street	240½	297 17	6,585	5,334	25.27	20.47	3.84	2.85	68.44	4.75

DEPARTMENT OF PUBLIC WORKS.

YEAR 1901 -- DETAILS OF VESSEL MOVEMENTS PASSING BRIDGES, BY MONTHS.

MONTHS.	RUSH STREET.			DEARBORN STREET.			WELLS STREET.			LAKE STREET.			HARRISON STREET.			TWELFTH STREET.			EIGHTEENTH STREET.			TWENTY-SECOND STREET.			KINZIE STREET.		
	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.
April.....	273	250	565	.....	.....	.....	228	220	538	175	157	447	164	155	494	159	146	408	149	142	336	153	148	478	342	279	795
May	1,115	937	2,275	.....	.....	.....	935	793	2,279	708	592	1,790	681	560	1,908	686	575	1,629	527	480	1,205	533	480	1,685	885	746	2,386
June.....	1,351	1,129	2,668	.....	.....	.....	1,030	843	2,224	801	660	2,008	782	645	2,140	739	651	2,085	627	538	1,356	676	596	2,142	806	688	2,370
July	1,560	1,285	3,106	.....	.....	.....	953	810	2,064	783	638	1,970	759	601	2,181	748	609	2,116	605	509	1,327	625	539	1,874	779	610	2,083
August.....	1,729	1,417	3,381	.....	.....	.....	948	835	2,215	800	670	2,036	746	624	2,072	705	592	2,120	618	520	1,417	636	545	1,940	911	749	2,245
September	1,405	1,186	2,810	.....	.....	.....	899	778	2,068	723	622	1,966	309	244	820	685	578	2,102	541	459	1,488	539	473	1,741	858	676	2,044
October ..	1,103	933	2,284	.....	.....	.....	928	800	2,137	727	606	1,977	.....	.....	.....	650	547	2,175	532	432	1,380	533	454	1,685	894	735	2,622
November.	845	730	1,741	.....	.....	.....	754	673	1,781	611	512	1,671	.....	.....	.....	560	478	1,862	472	414	1,085	487	457	1,508	723	533	2,128
December.	275	251	636	.....	.....	.....	297	243	667	208	190	612	.....	.....	.....	197	181	691	148	139	371	115	107	366	417	327	1,296
Totals.....	9,656	8,118	19,466	2,316	2,030	5,364	6,952	5,965	15,923	5,531	4,647	14,536	3,441	2,829	9,615	5,130	4,367	15,138	4,219	3,633	9,965	4,297	3,750	13,479	6,585	5,331	17,899

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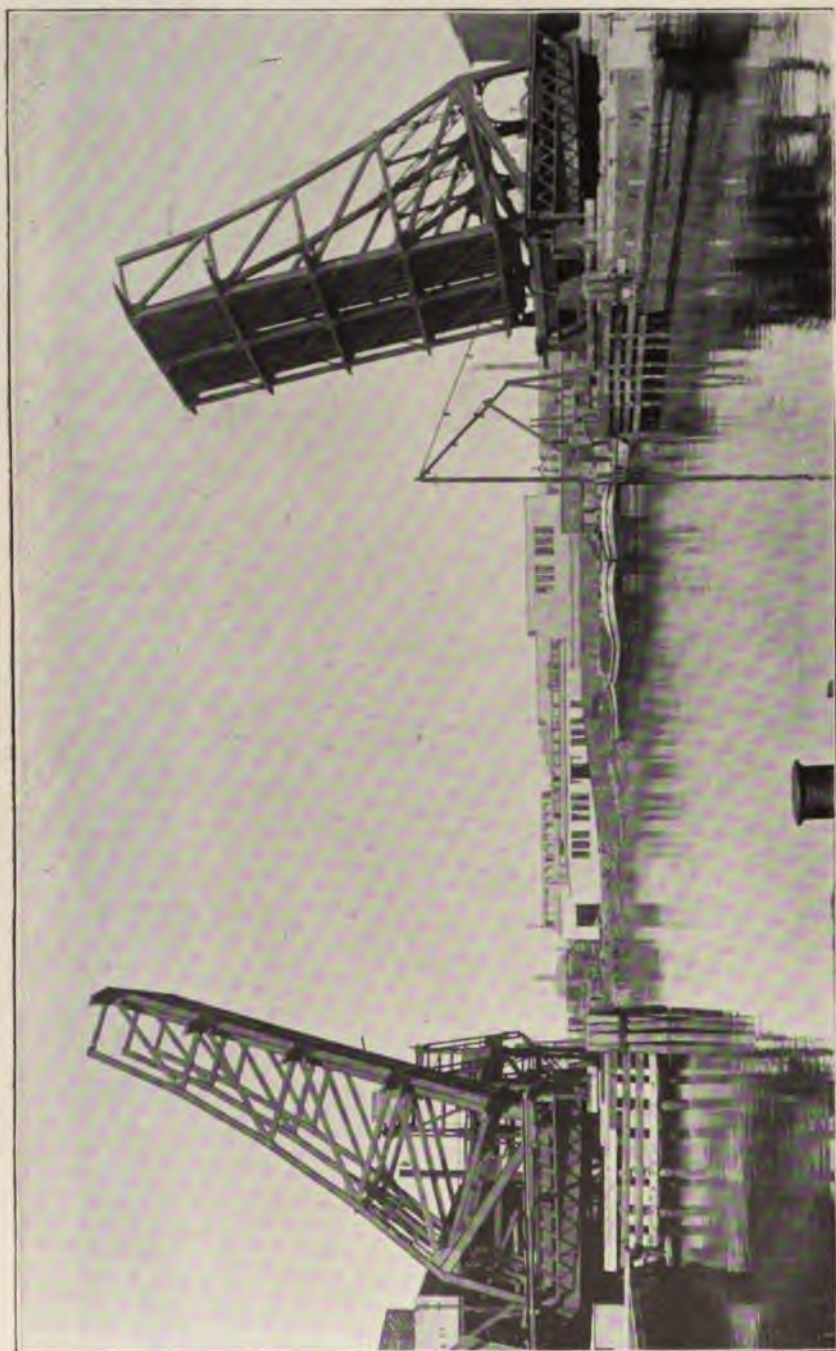
DEPARTMENT OF PUBLIC WORKS.

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MONTHS.	RUSH STREET.			DEARBORN STREET.			WELLS STREET.			LAKE STREET.			HARRISON STREET.			TWELFTH STREET.			EIGHTEENTH STREET.			TWENTY-SECOND STREET.			KINZIE STREET.		
	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.
April.....	273	240	565	.....	.....	.....	238	226	538	175	157	447	164	155	494	159	146	408	149	142	336	153	146	478	342	279	796
May.....	1,115	937	2,275	.....	.....	.....	935	793	2,279	705	592	1,790	681	560	1,908	666	575	1,629	627	480	1,205	533	480	1,085	885	746	2,386
June.....	1,351	1,129	2,608	.....	.....	.....	1,030	843	2,224	801	630	2,008	782	645	2,140	759	651	2,085	627	538	1,366	676	586	2,142	806	688	2,370
July.....	1,560	1,285	3,106	.....	.....	.....	953	816	2,064	783	638	1,970	739	601	2,181	748	609	2,116	606	500	1,357	625	539	1,874	779	610	2,033
August.....	1,729	1,417	3,381	.....	.....	.....	948	825	2,215	800	670	2,035	746	624	2,072	703	592	2,120	618	520	1,417	436	545	1,940	911	749	2,245
September.....	1,405	1,186	2,810	344	302	846	899	778	2,068	723	623	1,966	308	244	820	635	578	2,102	541	459	1,488	539	473	1,741	828	676	2,044
October.....	1,103	933	2,284	943	824	2,130	928	809	2,137	727	606	1,977	.....	.....	.....	669	547	2,175	532	432	1,390	533	454	1,085	894	726	2,022
November.....	845	730	1,741	763	653	1,760	754	673	1,781	611	512	1,671	.....	.....	.....	560	478	1,862	472	414	1,085	487	427	1,568	723	583	2,128
December.....	276	261	636	266	251	628	267	243	667	208	190	612	.....	.....	.....	197	181	691	148	139	371	115	107	366	417	327	1,296
Totals.....	9,666	8,118	19,406	2,316	2,090	5,364	6,362	5,895	15,623	5,531	4,647	14,535	3,441	2,829	9,615	5,130	4,307	15,138	4,219	3,633	9,965	4,297	3,759	13,479	6,585	5,331	17,830

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CLYBOURN PLACE BRIDGE—DECEMBER 31, 1901.

Of the vessels engaged in the trade of the City, 16 per cent of the number went to the Calumet river, 84 per cent of the vessels, carrying only 67.7 per cent of the tonnage, went to the Chicago river. Of the vessels that sought the Chicago river, 29.4 per cent stopped east of Rush street bridge, 70.6 per cent going west of it. Of the vessels that passed west of Rush street, 72 per cent passed Wells street, 45.6 per cent of them going down the South branch and 54.4 per cent taking the North branch. There has been a movement of 1,291 vessels from branch to branch of the Chicago river going north and coming south without in either case passing east of Wells street bridge. Of the vessels that passed Lake street going down the South branch, 77.7 per cent passed beyond or south of Twenty-second street bridge as against 74½ per cent for the year 1900.

OPERATION OF BRIDGES, YEAR 1901.

BRIDGES.		Average Time of Each Swing. Minutes.	Average Number of Swings Each Month.	Total Number of Swings Annually.
Adams street.....	Electricity	51½	468	4,688
Archer avenue.....	Hand	6½	150	1,428
*Ashland avenue, Thirty-ninth street.....	"			
Ashland avenue (river).....	"	43½	611	1,922
Belmont avenue.....	"			
Chicago avenue.....	"	5	233	2,210
Chittenden.....	"	21	29	294
Clark street.....	Electricity	21½	699	6,289
*Canal street (not in operation).....				
Deering street (low bridge).....	Hand	5	880	6,165
Diversey boulevard.....	"	5	7	62
*Division street (canal).....	Electricity			
Division street (river).....	Hand	41½	314	2,970
Dearborn street.....	Electricity	23½	595	5,948
Eighteenth street.....	Hand	21½	404	3,633
Eric street.....	"	51½	195	1,954
Fuller street.....	"	51½	333	3,327
Fullerton avenue.....	Electricity	31½	97	870
Harrison street.....	Hand	31½	472	2,829
Halsted street (canal).....	"	41½	266	2,656
Halsted street, South.....	Steam	3	568	4,545
Halsted street, North (river).....	Electricity	31½	137	825
Indiana street.....	Hand	41½	286	2,295
Jackson boulevard.....	Electricity	2	474	4,744

*New bridge under construction. Others not reported are either not in service or at the ends of navigation.

OPERATION OF BRIDGES, YEAR 1901—CONTINUED.

BRIDGES.		Average Time of Each Swing. Minutes.	Average Number of Swings Each Month.	Total Number of Swings Annually.
Kinzie street.....	Hand	2 $\frac{1}{2}$	593	5,331
Lake street.....	Electricity	3	516	4,647
Laurel street.....	Hand	4 $\frac{1}{2}$	61 $\frac{1}{2}$	65
Madison street.....	Steam	2 $\frac{3}{4}$	463	4,633
*Main street (low bridge).....	Hand			
North avenue.....	"	2 $\frac{1}{2}$	244	2,316
Ninety-second street.....	"	6	294	2,944
*Ninety-fifth street.....	Electricity			
One Hundred and Sixth street.....	Hand	6 $\frac{1}{2}$	115	1,152
Polk street.....	"	4 $\frac{1}{2}$	467	4,437
Riverdale.....	"			
Randolph street.....	"	2 $\frac{1}{2}$	424	2,122
Rush street.....	Electricity	2 $\frac{1}{2}$	902	8,118
State street.....	"	2 $\frac{3}{4}$	674	6,398
Twelfth street.....	Steam	3 $\frac{1}{2}$	484	4,357
Twenty-second street.....	Hand	3 $\frac{1}{2}$	418	3,759
Thirty-fifth street.....	"	8	87	653
Van Buren street.....	Electricity	3 $\frac{3}{4}$	467	4,441
Washington street.....	"	2 $\frac{3}{4}$	478	4,782
Webster avenue.....	Hand	4 $\frac{1}{4}$	130	1,298
Weed street.....	"			
Wells street.....	Electricity	2 $\frac{1}{2}$	666	5,995
Western avenue, North.....	Hand	7 $\frac{1}{2}$	6	29
Western avenue, South.....	"	2 $\frac{3}{4}$	67	373

*New bridge under construction. Others not reported are either not in service or at the ends of navigation.

COMMERCE BY LAKE AND CANAL—CITY OF CHICAGO.

FROM 1848 TO 1901, BY YEARS, WITH POPULATION 1831 TO 1901. COMPILED FROM OFFICIAL RECORDS OF THE DEPARTMENT.

Years	VESSELS BY LAKE.			BY ILL. & MICH. CANAL.			POPULATION.	REMARKS.
	Total No.	Total Tonnage.	Average, Cargo, Ton.	Boats No.	Tonnage.	Tolls, Dollars.		
1848						87,890	20,023	
1849						118,375	23,047	
1850						125,504	28,296	
1851						173,300	34,000	
1852						168,577	38,734	
1853						173,872	60,662	
1854						198,326	65,872	
1855						180,519	80,023	
1856						184,310	86,000	
1857						197,830	93,000	
1858						197,171	84,000	
1859						132,147	94,000	
1860				201	367,437	128,554	109,460	
1861				194	547,295	218,040	120,000	
1862	14,687	3,847,246	262	211	673,590	264,647	137,030	
1863	17,185	4,338,832	252	240	619,599	210,886	150,000	
1864	17,762	4,339,770	244	228	510,286	156,607	161,288	
1865	20,179	4,199,135	208	228	616,140	300,810	178,492	
1866	22,199	4,620,092	208	230	746,815	202,958	200,418	
1867	24,370	5,101,203	209	209	746,954	252,231	225,000	
1868	26,399	6,005,403	265	218	737,827	215,720	252,054	
1869	27,602	6,273,346	227	219	817,738	238,759	280,000	
1870	25,172	6,033,207	239	179	585,970	149,635	298,700	
1871	24,632	6,178,336	251	186	628,975	159,050	334,270	
1872	25,353	6,077,542	239	178	783,641	165,874	367,396	
1873	23,734	6,564,542	239	172	849,533	166,641	380,000	
1874	21,547	6,329,711	294	152	712,020	144,831	395,400	
1875	21,095	6,279,055	298	142	676,025	107,081	407,000	
1876	19,245	6,167,736	320	146	691,946	113,293	420,000	
1877	20,517	6,585,415	321	145	695,912	96,913	439,776	
1878	20,994	7,239,673	345	140	598,792	84,330	450,000	
1879	23,873	7,757,395	325	136	669,559	89,064	475,000	
1880	25,520	8,154,351	345	133	751,360	92,296	503,298	
1881	26,005	8,762,247	337	133	826,133	85,130	540,000	
1882	26,977	9,754,249	362	132	1,011,287	85,947	560,693	
1883	23,982	7,790,337	325	132	925,575	77,975	580,000	
1884	22,826	7,508,696	330	134	956,721	77,102	630,000	
1885	21,542	7,306,222	339	135	827,355	66,800	664,634	
1886	23,372	7,877,080	352	130	808,019	62,516	704,000	
1887	23,972	8,749,852	365	132	742,074	58,024	760,000	
1888	22,095	8,890,658	402	127	751,055	56,028	830,000	
1889	21,788	10,267,831	471	114	917,047	60,605	1,100,000	
1890	20,133	10,116,051	502	104	742,392	65,112	1,208,669	
1891	19,680	10,862,898	522	97	641,156	49,557	1,323,339	
1892	21,123	11,780,393	565	95	783,288	54,937	1,438,010	
1893	17,044	10,788,029	692	82	529,816	38,702	1,502,868	
1894	16,202	10,284,178	635	85	617,811	44,928	1,567,727	
1895	18,232	12,631,180	693	83	591,407	39,106	1,584,070	
1896	16,999	12,965,812	763	67	448,782	34,543	1,600,413	
1897	17,865	14,277,235	799	64	600,000	41,000	1,726,000	
1898	18,512	15,116,426	817	64	395,017	38,570	1,851,588	
1899	16,174	12,599,239	779	64	469,352	41,022	2,000,000	
1900	16,976	13,990,894	824	60	121,759	20,866	*2,007,695	
1901	16,274	13,634,904	838	41	81,456	11,551	†2,100,000	

* School Census, 1900. † Estimated.

DAMAGES DONE BY VESSELS.

Statement of damages done to the bridges in the Chicago and Calumet rivers during the year 1901:

MONTHS.	Accidents.	Damage.
January	2	.....
February.....	2	\$ 29.20
March.....		.....
April.....	2	23.29
May.....	19	1,176.14
June.....	14	391.99
July.....	19	789.50
August.....	17	1,132.05
September.....	18	1,849.96
October.....	15	1,627.77
November.....	10	488.51
December.....	5	317.22
Total.....	123	\$7,820.62

The status of the submerged land along the lake front has been a fruitful subject of litigation for years. The opinion of the Supreme Court of this State, filed December 21, 1898, in the case of *Revell vs. the People*, 177 Ill., 468, is of great importance in this connection. It is as follows:

“1. *Waters*.—Title to land submerged by waters of the great lakes belongs to the boundary States. Title to and dominion over lands covered by the waters of the great lakes are in the several States within which the lands are located.

“2. The erection of piers in Lake Michigan by a shore owner constitutes a purpresture, and is such an unlawful act as warrants the interference of an equity upon the filing of an information by the Attorney-General.

“3. A purpresture may be enjoined or abated in equity, although it is not injurious or a public nuisance.

“4. One owning land bordering on Lake Michigan has no right to build wharfs or piers for the purpose of increasing the boundary of his premises beyond the water line, nor can he lawfully do any act which may indirectly accomplish that result.

“5. The only rights which one owning land bordering on Lake Michigan has in Illinois are the common law rights of access to the lake from his property within its width, and to natural accretions.

"6. The rules governing the riparian rights of the owners of the banks of a river, which permit them to build wharfs, do not apply to littoral owners of lands bordering on Lake Michigan, as the title of a riparian owner extends, in theory, to the thread of the stream, while ownership of the shore of Lake Michigan extends only to the water edge.

"7. One owning land bordering on Lake Michigan may erect structures on his own land to protect it from erosion, if they do not interfere with navigation, but he has no right to build piers or other structures upon submerged land to accomplish that purpose, unless authorized by the State.

"8. Piers constructed in the waters of Lake Michigan by owners of the adjoining shore, without the authority of the State, must be abated by filing of an information by the Attorney-General, whether detrimental to public interests or not."

The litigation over the submerged lands in Lake Michigan, to which the Illinois Central Railroad Company, the State of Illinois and the City of Chicago were parties, has reached a final decision in the Supreme Court of the United States. The case went up from the United States Circuit Court of Appeals, Seventh District. The text of the opinion is not yet generally issued, but the press seems to ascribe to it a confirmation of title in the Illinois Central Railroad to the piers and other structures on the lake front north of Twelfth street, and prohibits any new construction either north or south of Twelfth street.

MONTHLY MEAN BAROMETRIC PRESSURE — (IN INCHES), ANNUAL
MEANS, FROM 1873 TO 1901 — FOR CHICAGO.

YEAR.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1873.....	29.13	29.14	29.14	29.05	29.02	29.10	29.13	29.17	29.17	29.15	29.11	29.21	29.13
1874.....	.21	.22	.18	.19	.11	.09	.13	.13	.16	.21	.19	.22	.17
1875.....	.31	.19	.10	.10	.06	.10	.12	.10	.17	.10	.17	.03	.13
1876.....	.16	.15	.10	.09	.10	.02	.12	.16	.12	.06	.10	.18	.11
1877.....	.22	.27	.14	.07	.15	.04	.09	.09	.14	.11	.14	.19	.14
1878.....	.14	.05	.04	.28	.91	.06	.06	.11	.04	.18	.12	.15	.06
1879.....	.22	.19	.18	.29	.13	.16	.13	.10	.11	.21	.25	.18	.17
1880.....	.13	.16	.19	.06	.11	.10	.12	.16	.18	.18	.28	.21	.16
1881.....	.23	.21	.00	.13	.15	.07	.15	.15	.09	.20	.18	.21	.15
1882.....	.23	.13	.16	.15	.11	.02	.15	.12	.21	.14	.25	.20	.16
1883.....	.23	.35	.15	.07	.06	.06	.12	.20	.20	.22	.19	.19	.17
1884.....	.25	.13	.13	.07	.07	.16	.09	.17	.15	.24	.19	.20	.15
1885.....	.22	.10	.18	.13	.05	.15	.10	.11	.16	.11	.09	.15	.13
1886.....	.15	.17	.08	.17	.09	.12	.11	.11	.17	.30	.13	.27	.16
1887.....	.16	.23	.18	.07	.11	.11	.10	.14	.20	.17	.17	.16	.15
1888.....	.31	.14	.20	.25	.04	.05	.16	.16	.19	.09	.24	.17	.17
1889.....	.03	.21	.11	.18	.07	.10	.10	.20	.14	.25	.18	.15	.14
1890.....	.23	.16	.18	.21	.14	.11	.14	.19	.23	.06	.17	.20	.16
1891.....	.16	.11	.14	.12	.23	.07	.16	.12	.25	.22	.17	.14	.16
1892.....	.20	.20	.17	.15	.02	.06	.20	.15	.21	.18	.17	.20	.16
1893.....	.08	.19	.11	.01	.03	.10	.10	.15	.12	.13	.14	.18	.11
1894.....	.17	.20	.11	.12	.07	.13	.16	.17	.17	.06	.17	.19	.14
1895.....	.10	.23	.14	.12	.13	.17	.14	.08	.14	.18	.21	.30	.25
1896.....	29.23	29.04	29.16	29.14	29.07	29.11	29.15	29.16	29.15	29.17	29.21	29.27	29.16
1897.....	29.20	29.16	29.13	29.17	29.14	29.10	29.08	29.13	29.29	29.20	29.18	29.17	29.16
1898.....	29.12	29.18	29.20	29.18	29.08	29.13	29.17	29.12	29.15	29.13	29.15	29.16	29.15
1899.....	29.19	29.15	29.06	29.13	29.14	29.16	29.12	29.11	29.19	29.24	29.17	29.15	29.15
1900.....	29.16	29.10	29.16	29.16	29.09	29.09	29.10	29.15	29.19	29.21	29.18	29.16	29.15
1901.....	29.12	29.15	28.93	29.21	29.01	29.04	29.03	29.10	29.14	29.23	29.23	29.13	29.14

**PRECIPITATION AT CHICAGO, ILL., IN INCHES, BY MONTHS, SEASONS
AND YEARS, FROM 1843 TO 1901, INCLUSIVE.**

Year.	MONTHLY TOTALS.												TOTALS, SEASONS AND YEARS.					Year.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Spring.	Summer.	Autumn.	Winter.	Annual.	
1843	12.0	1.9	3.0	4.5	4.0	4.6	1.4	3.4	3.0	1.2	5.1	2.4	11.5	8.4	9.3	6.5	35.50	1843
1844	12.8	1.3	1.76	2.76	6.0	5.5	5.0	4.2	0.8	1.6	0.7	0.7	10.52	14.7	3.1	6.5	33.12	1844
1845	2.0	0.5	2.2	6.5	2.0	3.8	3.5	1.2	4.4	1.4	3.3	1.5	10.7	8.5	9.1	3.2	32.30	1845
1846	4.9	1.8	4.5	7.8	2.4	4.3	2.9	1.0	5.0	0.8	1.5	5.0	12.8	8.2	7.3	8.2	40.00	1846
1847	2.3	3.5	1.5	2.1	3.3	1.5	2.8	2.0	3.2	4.6	4.8	1.2	6.9	6.3	12.6	10.8	32.50	1847
1848	1.6	2.4	4.5	3.3	3.8	4.4	3.4	5.1	2.2	3.2	2.1	8.4	11.6	12.9	7.5	5.2	44.40	1848
1849	5.5	1.0	4.7	1.8	3.8	3.6	2.3	3.5	2.6	3.8	1.4	1.2	10.3	9.4	6.8	14.9	34.20	1849
1850	2.1	0.7	2.0	3.3	1.9	3.1	2.1	6.4	1.4	2.0	3.2	1.7	7.7	11.6	7.6	4.0	30.40	1850
1851	1.5	3.8	0.8	4.2	0.7	5.3	3.8	3.1	3.2	2.3	2.3	1.6	11.7	12.2	7.8	7.0	38.60	1851
1852	2.0	1.2	5.5	4.8	2.4	2.5	3.4	0.5	2.3	6.8	4.0	3.3	12.7	6.5	13.1	4.8	38.80	1852
1853	1.4	2.2	1.8	2.8	4.4	4.9	6.1	2.2	4.2	3.0	2.1	2.3	9.0	13.2	9.3	6.9	36.40	1853
1854	1.3	1.9	2.1	1.1	3.1	2.6	3.0	0.9	1.6	3.6	1.0	1.4	7.3	6.5	6.2	5.5	24.60	1854
1855	8.0	0.6	2.6	1.4	2.5	3.7	5.8	3.2	2.3	2.0	2.2	2.0	6.5	12.7	6.5	10.0	36.30	1855
1856	0.9	1.8	0.6	2.6	4.8	2.5	2.1	1.3	2.5	2.1	3.98	3.86	8.0	6.9	8.55	4.7	29.04	1856
1857	1.09	5.43	2.5	2.19	6.33	4.14	3.0	5.0	2.2	4.0	2.7	1.2	11.02	12.14	8.9	10.38	39.83	1857
1858	1.3	1.4	3.0	3.1	7.8	6.3	5.9	3.2	4.0	4.6	4.5	2.0	13.9	15.4	13.1	3.9	47.10	1858
1859	1.4	1.8	5.2	3.4	3.6	1.7	0.9	0.4	2.2	4.1	2.8	1.8	12.2	3.0	9.1	5.2	29.30	1859
1860	1.6	1.6	1.0	2.8	4.6	3.5	5.3	2.6	2.8	4.1	2.3	4.2	8.4	11.4	9.2	5.0	36.40	1860
1861	1.4	3.0	3.4	4.7	3.7	2.1	4.3	2.4	3.4	7.5	1.5	1.9	11.8	8.8	12.4	8.6	39.30	1861
1862	4.0	0.7	2.0	5.2	4.3	2.9	6.7	3.6	5.6	2.92	1.2	1.3	11.5	13.2	9.72	6.6	40.42	1862
1863	2.8	2.6	2.1	3.1	5.1	1.3	2.3	4.2	1.6	4.0	1.9	3.6	9.3	7.8	7.5	6.7	33.60	1863
1864	1.6	0.4	2.1	3.2	1.9	2.1	6.4	1.1	2.1	1.9	3.1	2.5	7.3	9.6	7.1	5.6	28.40	1864
1865	0.4	3.1	3.1	3.8	1.5	5.1	6.1	7.2	4.8	4.0	0.5	0.6	8.4	18.5	9.3	6.0	40.20	1865
1866	2.8	1.6	2.2	2.2	2.0	4.4	4.7	4.2	4.6	2.8	0.8	3.4	7.0	13.3	8.2	5.0	36.30	1866
1867	1.93	2.22	1.58	1.70	4.42	1.86	1.52	2.33	0.57	1.28	1.89	1.11	7.70	5.71	3.74	7.55	22.41	1867
1868	1.28	0.92	5.24	3.00	3.74	3.11	2.87	3.55	7.08	1.69	2.60	1.40	11.98	9.45	11.37	3.31	36.48	1868
1869	1.97	2.23	1.33	4.30	5.69	5.03	3.26	1.32	0.89	1.10	2.42	2.03	11.22	10.61	4.41	5.60	31.57	1869
1870	1.95	0.86	1.81	1.15	0.80	1.70	3.71	2.07	2.82	2.43	1.16	2.46	3.76	7.48	6.41	4.84	22.92	1870
1871	4.13	1.45	2.66	3.79	3.90	5.56	2.52	2.01	0.74	1.88	3.62	3.44	10.35	10.10	12.24	8.04	35.61	1871
1872	0.68	0.84	3.79	3.03	3.24	3.45	3.09	2.59	6.43	0.65	1.06	0.22	10.66	9.13	8.14	5.14	29.67	1872
1873	2.56	0.47	0.89	6.22	7.20	1.44	4.04	1.58	3.53	2.43	1.61	4.44	14.31	7.06	7.57	3.25	36.41	1873
1874	3.47	1.51	2.15	2.67	2.08	3.25	0.58	3.15	3.76	2.55	2.83	0.63	6.90	6.98	9.14	9.42	28.63	1874
1875	0.96	1.99	1.43	2.32	3.64	5.17	7.18	3.28	4.39	4.32	0.75	2.62	7.39	15.09	9.46	3.58	38.00	1875
1876	3.22	3.90	4.04	2.07	1.85	5.96	3.11	3.66	3.74	1.20	3.25	0.48	7.90	12.73	8.29	9.74	36.48	1876
1877	1.91	0.66	5.37	2.42	1.81	6.04	2.98	3.06	2.02	6.15	6.08	2.75	9.60	12.08	14.25	2.45	41.01	1877
1878	1.31	2.12	4.39	5.57	5.22	3.02	0.69	3.66	1.99	5.17	0.83	2.58	15.18	12.77	7.99	6.18	41.95	1878
1879	0.64	1.47	2.37	1.93	3.89	3.18	5.58	0.45	1.18	2.72	4.93	2.47	8.19	9.21	8.83	4.59	30.71	1879
1880	3.53	2.91	2.25	0.30	4.97	3.50	3.07	4.47	2.25	3.19	0.87	1.11	12.42	10.04	6.31	8.91	37.32	1880
1881	0.87	5.98	2.99	1.84	1.85	5.93	4.31	0.54	4.34	6.89	5.97	2.67	6.68	10.79	17.21	8.06	44.18	1881
1882	1.55	2.24	3.43	6.72	5.52	5.71	3.43	4.96	0.91	3.40	1.48	1.99	15.67	14.00	5.97	6.46	41.34	1882
1883	1.74	4.74	0.42	3.72	7.32	5.61	5.53	1.21	1.36	1.96	5.26	1.59	11.46	12.35	13.98	8.47	45.86	1883
1884	1.39	3.27	5.16	3.05	1.53	2.11	3.71	2.50	2.29	3.59	1.80	4.21	9.74	8.32	7.68	6.25	34.61	1884
1885	3.18	2.01	0.57	4.00	3.17	5.20	2.44	11.28	2.97	3.87	2.33	3.35	7.74	18.92	9.17	9.40	44.37	1885
1886	3.56	1.51	1.79	1.29	1.00	0.94	1.53	3.38	6.93	1.42	1.66	1.70	4.08	5.85	10.01	8.42	26.77	1886
1887	3.13	5.10	0.89	0.46	1.38	1.63	1.06	3.35	4.03	2.03	2.41	3.67	2.63	6.03	4.47	9.99	29.13	1887
1888	1.56	1.51	2.99	2.13	6.22	1.66	3.93	2.10	0.98	2.95	2.89	1.94	11.34	7.69	6.72	6.74	30.56	1888
1889	1.64	1.31	1.43	2.35	5.38	2.93	9.50	0.39	2.75	1.82	3.49	1.90	9.18	12.83	8.06	4.09	34.95	1889
1890	2.98	2.42	2.10	3.23	5.13	3.25	2.57	2.58	1.39	4.20	1.59	1.25	10.46	8.40	7.18	7.30	32.69	1890
1891	1.99	1.95	2.13	3.14	2.09	2.42	2.47	4.52	0.32	0.36	2.83	1.32	7.36	9.41	4.51	5.19	26.54	1891
1892	1.99	1.57	2.21	2.17	6.77	10.58	2.23	1.85	1.34	1.54	2.68	1.63	11.15	14.66	5.56	4.88	36.56	1892
1893	2.08	2.44	1.69	4.16	1.93	8.59	3.08	0.18	1.98	1.75	2.45	2.14	7.78	6.85	6.18	6.15	27.47	1893
1894	1.55	2.15	2.66	2.65	3.35	1.96	0.60	0.60	8.28	0.84	1.18	1.66	8.66	3.16	10.30	5.84	27.46	1894
1895	2.15	1.60	1.32	0.86	1.99	1.79	2.42	6.49	0.89	0.51	5.60	6.76	4.17	10.70	7.00	5.41	32.38	1895
1896	1.12	3.48	1.26	2.79	4.16	2.83	3.61	3.52	6.70	1.36	2.16	0.16	8.12	9.06	10.22	11.36	33.14	1896
1897	4.53	2.22	3.56	2.23	0.84	3.00	1.47	1.70	0.84	0.18	3.06	1.62	6.68	6.77	4.08	6.91	25.85	1897
1898	3.54	2.59	4.60	0.76	2.29	6.39	1.94	3.03	3.16	3.26	2.25	1.11	7.59	10.27	8.67	7.24	33.71	1898
1899	0.58	1.60	2.11	0.14	4.35	2.71	0.66	0.91	2.29	2.69	2.73	1.81	6.60	10.28	7.21	8.99	24.68	1899
1900	1.21	3.52	1.58	1.02	3.69	2.60	4.64	4.24	1.56	1.35	3.30	0.58	6.19	10.94	6.21	6.54	28.65	1900
1901	1.15	2.05	3.38	0.33	2.18	2.42	4.25	2.00	2.92	1.29	0.85	1.70	5.89	8.69	5.06	4.90	24.52	1901

TEMPERATURE BY MONTHS, SEASONS AND YEARS, FROM 1830 TO 1901, BOTH INCLUSIVE—AT CHICAGO, ILL.

Year.	MONTHLY MEANS.												MEANS, SEASONS AND YEARS.					Year.
	January.	February.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Spring.	Summer.	Autumn.	Winter.	Annual.	
1830	23	30	37	53	59	64	75	72	58	47	45	26	49	70.4	53.3	...	59	1830
1831	18	20	27	43	57	69	72	70	51	42	32	15	45	70.3	47.3	21.1	45	1831
1832	24	15	37	49	55	68	70	71	62	71	49	20	47	70.3	52.3	19.9	48	1832
1833	20	27	35	50	60	63	72	70	64	64	39	18	41	68.8	49.8	30.2	49	1833
1834	13	34	36	47	54	62	74	73	60	61	40	3	46	68.5	48.9	27.4	47	1834
1835	28	14	32	42	54	63	67	65	52	47	34	8	48	65.1	45.5	23.9	44	1835
1836	22	4	21	36	41	58	66	65	56	46	34	21	40	72.2	45.9	23.1	42	1836
1837	24	4	25	34	48	53	68	65	50	50	35	30	38	64.6	49.7	24.1	44	1837
1838	25	11	42	40	50	66	74	69	58	48	25	19	44	64.6	48.4	20.7	41	1838
1839	29	28	35	53	54	61	73	66	54	49	31	31	47	64.6	48.4	25.3	48	1839
1840	21	28	37	46	54	66	68	66	56	49	35	28	47	64.6	48.4	25.3	48	1840
1841	22	23	35	41	55	67	69	67	57	57	37	37	43	64.6	48.4	25.3	46	1841
1842	25	28	43	52	52	59	67	61	61	52	30	30	43	64.6	48.4	25.3	46	1842
1843	26	13	18	45	53	65	71	67	63	44	33	32	49	64.6	48.4	25.3	46	1843
1844	22	30	38	44	53	65	71	67	63	44	33	32	49	64.6	48.4	25.3	46	1844
1845	23	29	39	44	53	65	71	67	63	44	33	32	49	64.6	48.4	25.3	46	1845
1846	29	31	42	49	58	68	78	70	62	43	34	31	49	64.6	48.4	25.3	46	1846
1847	20	30	32	47	53	65	76	75	64	53	41	34	44	64.6	48.4	25.3	46	1847
1848	32	31	36	46	58	68	69	69	59	58	36	36	46	64.6	48.4	25.3	46	1848
1849	22	31	36	42	50	66	70	66	62	55	45	22	46	64.6	48.4	25.3	46	1849
1850	30	32	34	41	51	66	74	71	61	51	43	23	42	64.6	48.4	25.3	46	1850
1851	28	35	40	45	53	64	74	71	61	51	36	23	42	64.6	48.4	25.3	46	1851
1852	22	32	34	38	45	56	68	69	59	54	38	28	42	64.6	48.4	25.3	46	1852
1853	29	29	37	45	52	67	68	64	62	50	39	30	44	64.6	48.4	25.3	46	1853
1854	19	27	38	44	54	66	74	72	62	54	38	28	44	64.6	48.4	25.3	46	1854
1855	26	18	31	44	56	62	74	71	67	55	37	22	45	64.6	48.4	25.3	46	1855
1856	13	17	27	44	51	61	71	65	59	49	35	18	40	64.6	48.4	25.3	46	1856
1857	10	30	27	34	50	63	71	65	57	48	35	14	40	64.6	48.4	25.3	46	1857
1858	23	19	36	43	55	68	74	74	63	50	35	20	43	64.6	48.4	25.3	46	1858
1859	27	29	34	41	55	62	74	71	63	50	35	20	43	64.6	48.4	25.3	46	1859
1860	18	1	28	41	52	63	74	71	63	50	35	20	43	64.6	48.4	25.3	46	1860
1861	21	29	34	41	52	63	74	71	63	50	35	20	43	64.6	48.4	25.3	46	1861
1862	18	2	29	41	52	63	74	71	63	50	35	20	43	64.6	48.4	25.3	46	1862
1863	36	20	31	49	51	52	63	68	65	51	48	34	42	64.6	48.4	25.3	46	1863
1864	16	23	27	34	48	56	67	69	68	54	43	32	40	64.6	48.4	25.3	46	1864
1865	17	25	32	42	51	61	72	72	65	52	46	35	42	64.6	48.4	25.3	46	1865
1866	17	17	26	35	43	51	62	72	64	50	38	25	40	64.6	48.4	25.3	46	1866
1867	19	30	34	43	56	57	67	73	71	57	45	35	42	64.6	48.4	25.3	46	1867
1868	17	24	37	44	54	64	73	71	61	51	40	28	42	64.6	48.4	25.3	46	1868
1869	31	2	23	29	45	52	64	72	72	61	43	28	42	64.6	48.4	25.3	46	1869
1870	25	27	32	44	54	64	73	72	61	51	40	28	42	64.6	48.4	25.3	46	1870
1871	30	30	41	51	56	68	73	72	61	51	40	28	42	64.6	48.4	25.3	46	1871
1872	23	25	28	47	56	69	72	72	61	51	40	28	42	64.6	48.4	25.3	46	1872
1873	20	24	34	43	53	68	70	70	61	51	40	28	42	64.6	48.4	25.3	46	1873
1874	28	31	41	51	56	68	70	70	61	51	40	28	42	64.6	48.4	25.3	46	1874
1875	17	14	21	31	42	55	63	68	68	54	41	35	44	64.6	48.4	25.3	46	1875
1876	33	31	33	46	50	67	73	73	61	48	38	33	46	64.6	48.4	25.3	46	1876
1877	21	36	44	54	56	68	73	73	61	48	38	33	46	64.6	48.4	25.3	46	1877
1878	31	37	44	52	55	65	74	73	61	48	38	33	46	64.6	48.4	25.3	46	1878
1879	21	27	34	44	56	67	73	72	61	48	38	33	46	64.6	48.4	25.3	46	1879
1880	40	34	37	48	54	62	72	72	61	48	38	33	46	64.6	48.4	25.3	46	1880
1881	19	24	32	41	51	61	72	75	69	55	39	27	44	64.6	48.4	25.3	46	1881
1882	28	34	38	45	51	61	72	75	69	55	39	27	44	64.6	48.4	25.3	46	1882
1883	16	23	31	43	52	62	71	71	68	54	41	30	43	64.6	48.4	25.3	46	1883
1884	14	27	34	44	53	63	72	72	68	54	41	30	43	64.6	48.4	25.3	46	1884
1885	18	16	30	45	53	62	72	72	68	54	41	30	43	64.6	48.4	25.3	46	1885
1886	21	28	36	49	57	66	71	72	66	56	38	25	40	64.6	48.4	25.3	46	1886
1887	17	27	31	41	50	60	70	70	67	56	38	25	40	64.6	48.4	25.3	46	1887
1888	16	13	30	45	52	60	70	70	67	56	38	25	40	64.6	48.4	25.3	46	1888
1889	29	29	34	46	56	68	73	70	66	56	38	25	40	64.6	48.4	25.3	46	1889
1890	30	32	35	47	53	64	70	72	67	60	51	41	42	64.6	48.4	25.3	46	1890
1891	30	28	29	46	53	64	70	72	67	60	51	41	42	64.6	48.4	25.3	46	1891
1892	19	30	31	44	52	61	71	71	69	59	53	34	42	64.6	48.4	25.3	46	1892
1893	12	21	33	44	52	61	71	71	69	59	53	34	42	64.6	48.4	25.3	46	1893
1894	27	23	41	46	58	71	74	73	70	66	52	34	42	64.6	48.4	25.3	46	1894
1895	17	17	31	46	59	70	74	73	70	66	52	34	42	64.6	48.4	25.3	46	1895
1896	27	26	34	53	65	74	74	72	68	60	53	34	42	64.6	48.4	25.3	46	1896
1897	21	28	36	46	55	65	72	72	69	59	53	34	42	64.6	48.4	25.3	46	1897
1898	28	27	40	44	56	62	73	74	71	67	50	37	43	64.6	48.4	25.3	46	1898
1899	23	17	29	44	50	60	70	72	73	62	58	44	46	64.6	48.4	25.3	46	1899
1900	28	20	29	46	58	68	71	71	66	65	61	44	46	64.6	48.4	25.3	46	1900
1901	26	17	34	45	54	64	71	71	66	64	55	27	44	64.6	48.4	25.3	46	1901

TABLE OF DAILY PRECIPITATION, CHICAGO,
YEAR 1901.

DATE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	.00	T	T	.00	.00	T	1.56	.00	.00	.00	.00	.05
2	.00	.00	T	.02	14	.00	.62	.02	.00	.00	.00	.05
3	.00	1.08	T	.01	.01	.00	T	T	.00	.00	.00	.02
4	.00	14	.02	.00	.00	.00	.01	.00	.00	.00	.00	10
5	.00	.00	T	.03	.00	.96	.07	.00	.00	.00	.00	T
6	.00	.00	.00	.03	1.03	.07	.00	.00	.00	.00	.00	.00
7	T	T	.00	.00	.05	.00	T	.00	.00	.00	T	T
8	.02	16	10	.00	.08	.00	.00	.00	.00	T	.00	.38
9	.35	.45	.03	.00	.00	.00	.00	.01	.12	.53	.00	T
10	T	.00	.80	.00	T	16	.00	.00	T	.01	.00	T
11	.06	.03	11	.00	15	.00	1	.00	1.81	.00	.26	T
12	.00	1	T	T	.00	.30	T	.00	15	.00	.02	.03
13	.00	.00	.00	T	.05	17	.00	.00	.00	.00	.00	.01
14	.05	.00	11	T	.00	.00	.00	.00	.71	.00	.00	.01
15	.00	.00	.06	.04	.00	.00	.00	.00	.12	T	T	.00
16	.00	T	.00	.02	.00	.01	.00	.00	T	.05	.00	T
17	T	14	.00	.01	.00	.01	T	.00	.00	.00	.00	.01
18	.00	.00	.00	.02	.01	.01	.21	.03	.00	.00	.01	.00
19	T	.00	.00	.00	.01	1	.00	.46	T	.00	.01	.00
20	.00	.00	.29	.00	.08	10	.00	.00	.01	.00	.00	.00
21	.00	T	.04	.01	.37	.00	.00	.16	.00	.00	.00	.00
22	.00	T	.00	.14	11	T	.00	.28	.00	.00	.20	.00
23	T	T	.06	.00	.00	T	.00	.00	.00	.00	14	1
24	T	.00	.26	T	T	10	T	.00	.00	.00	.12	T
25	T	.00	.10	.00	.00	.00	.55	.00	.00	.00	1	16
26	.01	.00	.02	.00	.00	.15	.00	T	.00	T	.00	1
27	1	.00	.01	.00	.00	.00	.00	.00	.00	.00	1	1
28	T	.00	.00	.00	.00	T	.05	.00	.00	.00	.00	T
29	13	.00	.00	.00	.00	.56	.00	T	.00	.00	.00	.01
30	17	.37	.00	.00	.00	.00	.00	.00	.00	.00	.00	1
31	T	.01	.08	.00	.00	.00	.04	.00	.00	.00	.00	.00

T indicates Trace of precipitation.

TABLE OF MEAN DAILY TEMPERATURE, CHICAGO,
YEAR 1901.

DATE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1.....	5	13	30	36	63	58	80	70	65	72	51	46
2.....	11	18	34	36	66	52	78	78	65	52	56	34
3.....	20	29	29	38	46	57	77	68	70	46	37	30
4.....	28	20	26	41	56	72	85	67	73	42	22	26
5.....	28	7	6	43	67	71	82	68	78	50	30	26
6.....	33	6	15	39	62	64	75	70	77	54	42	29
7.....	31	18	32	38	54	53	61	75	72	62	44	34
8.....	38	22	40	37	48	48	64	72	62	66	41	36
9.....	28	21	34	40	49	51	75	78	68	62	42	32
10.....	34	10	34	41	54	68	85	70	60	60	42	30
11.....	30	19	31	41	58	76	66	63	60	67	55	30
12.....	26	14	33	43	48	78	70	70	61	54	37	40
13.....	25	17	38	45	52	72	70	76	64	49	44	28
14.....	36	21	31	47	45	69	73	79	66	45	33	0
15.....	42	24	28	46	50	64	78	76	68	52	30	-7
16.....	30	25	32	51	60	68	83	72	58	44	26	2
17.....	15	30	44	46	65	69	81	72	49	40	32	6
18.....	16	27	52	34	52	72	72	72	47	48	34	2
19.....	18	12	46	36	48	67	74	70	52	54	36	4
20.....	40	10	54	36	47	63	84	68	48	50	36	-2
21.....	39	10	25	37	50	68	90	74	57	60	38	8
22.....	34	4	34	38	59	80	78	74	66	68	40	24
23.....	36	7	50	11	72	70	78	70	70	68	38	32
24.....	24	16	47	48	54	80	84	70	66	51	37	34
25.....	19	22	48	50	44	81	78	73	68	50	31	32
26.....	26	12	36	54	59	80	78	70	70	55	28	31
27.....	25	16	31	60	50	78	86	72	72	48	33	3
28.....	18	22	29	66	48	82	80	74	68	52	33	32
29.....	20	.....	30	67	48	76	79	77	62	66	38	39
30.....	15	.....	32	74	19	82	79	70	61	68	43	30
31.....	13	.....	33	.....	58	.....	73	62	.....	57	.....	32

TABLE OF MINIMUM DAILY TEMPERATURES, CHICAGO,
YEAR 1901.

DATE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	5	10	33	33	53	47	67	67	62	59	41	36
2	6	9	30	32	44	47	71	66	60	45	48	32
3	12	28	32	33	42	50	70	66	65	39	20	26
4	22	11	12	38	46	60	75	63	67	36	16	22
5	25	1	1	39	58	61	73	65	69	39	24	23
6	24	1	3	36	55	57	64	67	71	49	29	23
7	28	10	24	37	51	49	56	62	64	51	34	30
8	29	20	35	34	42	43	59	68	60	58	32	29
9	24	11	30	34	44	43	63	66	61	57	36	28
10	29	2	29	37	48	57	68	64	57	54	32	26
11	26	12	25	37	52	62	60	58	67	60	44	29
12	23	8	19	38	44	67	66	65	58	49	30	32
13	25	8	11	40	44	64	67	68	55	43	34	8
14	30	29	28	40	43	62	67	71	59	38	28	-8
15	33	17	27	41	46	60	73	70	60	40	26	-12
16	20	20	15	43	50	60	74	68	52	38	21	-5
17	19	26	34	35	52	64	70	70	45	33	28	3
18	5	30	35	30	47	65	70	69	40	38	29	1
19	8	5	38	34	46	62	69	68	47	50	33	5
20	27	3	21	34	45	59	71	66	45	48	32	8
21	32	4	19	34	47	63	77	69	44	46	30	2
22	30	1	25	37	52	72	71	69	54	56	37	14
23	30	1	40	38	59	63	73	67	59	55	37	30
24	11	10	39	45	41	68	74	67	62	47	35	37
25	13	11	41	45	42	69	70	66	62	42	26	29
26	23	7	31	46	43	72	72	68	60	47	24	28
27	19	10	30	53	46	73	77	68	61	45	30	28
28	14	16	27	60	45	71	71	68	61	46	29	29
29	13		28	58	44	71	71	70	56	54	35	27
30	4		29	64	46	66	72	64	55	61	38	16
31	4		30		46		65	58		50		24

TABLE OF MAXIMUM DAILY TEMPERATURES, CHICAGO,
YEAR 1901.

DATE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1.....	15	16	37	38	85	68	92	72	68	85	61	57
2.....	16	28	37	40	87	57	85	89	70	59	63	37
3.....	28	30	46	44	50	64	84	69	74	53	54	33
4.....	35	28	39	44	66	85	95	71	79	49	29	29
5.....	30	13	12	47	76	81	91	72	87	62	36	30
6.....	42	13	27	42	68	72	86	72	83	60	56	35
7.....	34	26	41	40	58	57	66	89	80	73	53	38
8.....	48	25	44	40	54	54	60	75	64	74	50	38
9.....	32	28	38	45	52	59	87	90	74	66	48	35
10.....	39	18	39	45	61	78	102	75	62	65	52	34
11.....	33	26	37	45	64	89	71	68	64	74	66	32
12.....	30	19	37	48	53	88	75	74	64	60	44	48
13.....	31	26	44	50	60	80	74	84	73	55	53	49
14.....	42	29	34	54	47	76	79	87	72	52	38	8
15.....	50	31	30	50	53	68	84	82	75	64	34	-2
16.....	40	30	40	59	69	75	92	76	65	51	31	9
17.....	20	35	54	56	78	74	92	75	53	48	37	9
18.....	26	34	68	39	58	79	75	74	54	59	38	4
19.....	27	20	57	38	51	72	78	72	57	57	39	13
20.....	54	17	47	38	49	67	97	71	52	53	41	4
21.....	46	17	31	40	52	82	103	78	70	74	47	17
22.....	39	8	44	40	66	88	87	80	77	79	42	33
23.....	42	13	60	50	85	78	83	72	82	82	40	35
24.....	36	23	55	53	66	93	94	72	60	55	39	35
25.....	25	29	54	55	46	93	87	80	75	59	36	35
26.....	30	18	42	61	57	89	84	71	81	63	33	34
27.....	31	21	32	67	55	82	95	75	82	52	36	40
28.....	21	29	31	73	51	93	90	81	76	58	37	35
29.....	26	.....	33	76	51	82	87	84	69	78	41	34
30.....	26	.....	34	83	52	97	85	77	67	75	48	35
31.....	22	.....	36	.....	71	.....	80	67	.....	64	.....	36

The City is indebted to the courtesy of O. P. Austin, Chief, Bureau of Statistics, Treasury Department; W. S. Chance, Supervising Special Agent of the Treasury Department; Professor Cox of the Weather Bureau, Northwestern District, and to the local officers at several selected stations of the United States Weather Bureau over the area of the upper lakes, for valuable information and meteorological data.

Colonel Ernst, Corps of Engineers, U. S. A., and his assistants, have extended many courtesies and much valuable information to the bureau during the year, for which grateful acknowledgment is a most agreeable duty.

DIVISION OF ARCHITECTURE.

MR. C. P. HERMANN, City Architect.

During 1901 plans and specifications were prepared for various projects, and various constructions supervised, as follows:

BUREAU OF ENGINEERING.

CENTRAL PARK AVENUE PUMPING STATION.—Necessary plumbing was installed. Miscellaneous plastering, carpentry, slate work and painting in connection with one public and two private toilet rooms were finished.

SPRINGFIELD AVENUE PUMPING STATION.—Two public and two private toilet rooms were completed.

NORWOOD PARK PUMPING STATION.—Plans were made for a small addition to house the new deep well pump.

LAKE VIEW PUMPING STATION.—Plans were made for proposed alterations in the engine room.

LAKE VIEW CRIB.—The plans and specifications for a new superstructure made several years ago were revised.

DEPARTMENT OF HEALTH.

Plans were made for bath-house No. 5 to be located in the Sixteenth ward; also for an addition to the Isolation hospital. On account of lack of funds work on these improvements could not be started.

FIRE DEPARTMENT.

Fire engine-house No. 91, located at the corner of Elbridge avenue and Central Park avenue, was completed July 1, 1901, at a cost of \$6,382. The building is built of brick, having pressed brick for the two fronts, stone trimmings and copper cornice.

Plans were made, but no contract let, for a double fire engine-house to be built in the First ward. This is to be occupied by the engine company now in the Harrison street fire engine house.

POLICE DEPARTMENT.

Different sketches and plans were made by this division for a police station to be built in the First ward, the old Harrison street station to be abandoned. No site was selected and therefore no contracts were let.

BUREAU OF SEWERS.

THIRTY-NINTH STREET PUMPING STATION.—Plans were completed for the proposed intercepting sewer pumping station to be located at the foot of Thirty-ninth street, east of the Illinois Central tracks.

GARBAGE CREMATORY.

Plans and specifications were prepared and the work supervised for a runway to the garbage crematory, located at Chicago avenue and Sedgwick street. This work was completed October 1st at a cost of \$1,508.

CITY HALL.

The Paymaster's Bureau, located on the main floor of the City Hall, was completed November 15th at a cost of \$3,000. This bureau consists of a general office with six pay windows, private office, vault and lobby.

In conclusion, I beg to express to you my thanks for the hearty co-operation and valuable advice with which you have always been ready to aid me. The loyalty and faithful work of my corps of assistants is warmly appreciated.

Very respectfully,

JOHN ERICSON,

City Engineer.

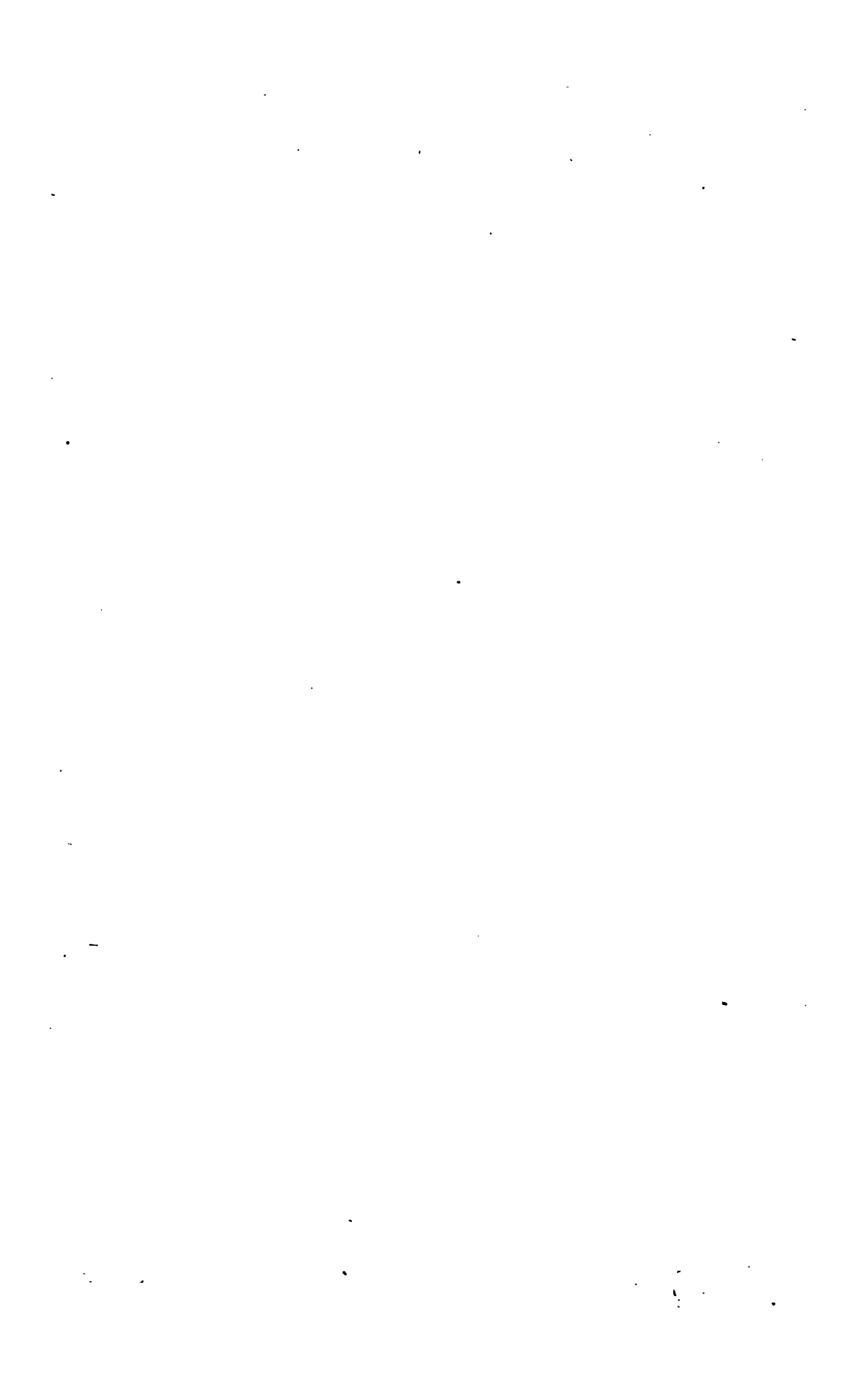
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INTERCEPTING SEWERS—DRIVING WAKEFIELD SHEETING, EAST OF I. C. R. R. TRACKS AT 43D STREET.

ANNUAL REPORT
Bureau of Water
CITY OF CHICAGO
1901

H. O. NOURSE
Superintendent



WATER OFFICE REPORT.

HON. F. W. BLOCKI,

Commissioner of Public Works.

DEAR SIR: Herewith I hand you in detail the Annual Report for the Bureau of Water, covering the conduct of affairs within the bureau for the year 1901:

TABLE No. I.

SHOWING AMOUNTS UNCOLLECTED DECEMBER 31, 1897, DECEMBER 31, 1898, DECEMBER 31, 1899, DECEMBER 31, 1900, AND DECEMBER 31, 1901, IN COMPARISON.

	1897.	1898.	1899.	1900.	1901.
Amount standing as uncollected on the ward ledgers	\$689,961.84	\$424,481.86	\$378,949.29	\$357,755.98	\$330,028.74
Amount standing as uncollected on the meter rate ledgers.....	153,600.37	84,252.41	63,019.34	70,180.78	121,839.16
Amount standing as uncollected on the meter mechanical ledgers.	4,237.26	3,642.56	4,752.47	4,704.58	4,179.03
Total.....	\$847,859.47	\$512,326.83	\$446,721.10	\$432,641.34	\$456,046.92

TABLE No. II.
SHOWING BUILDINGS EXAMINED BY THE DIVISION OF INSPECTION.

1901.	One-Story.	Two-Story.	Three-Story.	Four-Story.	Five-Story and Over.	Special Examinations.	New Buildings Examined.	Examination for Vacancies.	Pipe Pitting and Pipe Deposit Examinations.	Barn Examinations.	TOTAL.
January	1,758	3,090	986	149	102	543	639	386	26	2,580	10,208
February	1,603	4,175	2,125	705	788	290	607	148	26	2,650	13,067
March	817	2,577	1,827	592	448	174	372	76	17	1,729	8,624
April	658	2,145	1,433	530	198	247	334	56	14	1,597	7,152
May	1,068	2,772	1,980	1,072	584	1,023	1,134	321	11	1,928	11,893
June	216	709	681	525	74	1,445	518	848	10	1,448	6,474
July	815	2,461	1,556	505	153	454	1,044	275	2	2,496	9,851
August	1,186	3,283	1,538	525	480	203	866	214	3	2,727	11,065
September	1,959	3,791	1,627	332	168	229	633	117	3	2,700	11,559
October	1,387	2,737	1,161	330	31	1,528	1,109	92	2	2,043	10,420
November	508	869	275	50	26	3,804	1,284	189	5	1,122	8,182
December	172	454	265	68	15	2,207	793	820	..	986	5,780
Total	12,097	29,063	15,404	5,473	2,962	12,236	9,333	3,542	119	24,006	114,225
Total 1900	15,106	30,189	8,404	2,517	672	20,851	6,005	5,020	194	19,935	108,893

An annual examination has been completed in the following wards: Second, Third, Seventh, Eighth, Ninth, Tenth, Fifteenth, Sixteenth, Seventeenth, Eighteenth, Twentieth, Twenty-first, Twenty-second and Twenty-third.

THE

1871



38-11-30-01 18th St. Track Elevation. 30th plate girder for Lock St.

TABLE No. III.

MAKING A COMPARISON OF METER RATES IN SOME OF THE LARGE CITIES; ALSO SHOWING AMOUNT OF WATER TAX AGAINST AN EIGHT-ROOM TWO-STORY DWELLING, SUPPLIED WITH BATH, CLOSET, WASH BASIN, KITCHEN SINK, LAUNDRY TUBS, AND HOSE FOR SPRINKLING PURPOSES.

NAMES OF CITIES.	Meter Rates per 1,000 Gallons.	Water Tax for average Eight-room Residence.
Detroit	\$0.05	\$ 6.30
Boston .....	.15 ² ₁₀	10.00
Cincinnati .....	.09 ¹ ₂	5.30
Milwaukee .....	.06	18.50
New York .....	.13 ¹ ₃	9.00 (a)
Philadelphia .....	.04	9.00
Pittsburg .....	.08 to .20	20.50
San Francisco .....	.38	17.00 (b)
St. Louis .....	.30	19.50
Cleveland .....	.05 ¹ ₄	6.50 (a)
New Orleans .....	.30	30.00 (a) (b)
Buffalo .....	.06	8.50 (a)
Chicago .....	.10 (c)	.....
Chicago .....	.08 (d)	.....
Chicago .....	.04 (e)	10.50
Chicago		8.93 (f)

(a) Without hose.

(b) Private ownership.

(c) Rate for first 165,000 gallons used on one premises in one month.

(d) Rate for all in excess of 165,000 gallons used on one premises in one month.

(e) Rate for all in excess of 5,000,000 gallons used on one premises in one month.

(f) Chicago rate for prompt payment, being 15 per cent discount from gross amount.

TABLE No. IV.

WATER SERVICE PIPES LAID BY CONTRACT DURING THE YEAR 1901,
SHOWING NUMBER OF PIPES AND TOTAL AMOUNT
OF CONTRACT.

STREET.	FROM	TO	No. of Pipes.	Total Cost.
Adams.....	Forty-sixth avenue...	Forty-seventh avenue	36	\$ 326.90
Avers avenue.....	Chicago avenue.....	Division.....	141	1,223.77
Albany avenue.....	Belmont avenue.....	Elston avenue.....	27	244.60
Albany avenue.....	Nineteenth.....	Twenty-second.....	87	335.85
Adams.....	Forty-seventh avenue	Forty-eighth avenue.	40	324.50
Alma.....	Ontario.....	Chicago avenue.....	11	122.07
Bishop.....	Sixty-seventh.....	Sixty-ninth.....	45	432.12
Calumet avenue.....	Fifty-sixth.....	Sixty-first.....	28	278.76
N. and W. 8. Central boulevard.	Kinzie.....	Sacramento avenue..	84	492.97
S. and E. 8. Central boulevard.	Kinzie.....	Sacramento avenue..	78	457.76
W. 8. Central boulevard.....	Grand avenue.....	Sacramento square..	53	310.85
Champlain avenue.....	Sixty-seventh.....	Sixty-ninth.....	72	703.14
Cuyler avenue.....	W. Ravenswood Park	Robey.....	15	192.30
Dickens avenue.....	N. Kedzie avenue.....	Kimball avenue.....	3	47.79
Evarts avenue.....	Fifty-ninth.....	Sixty-first.....	72	1,005.84
Eddy avenue.....	Racine avenue.....	N. Clark.....	16	136.16
Eighty-eighth.....	Winchester avenue..	108 ft. E. of Peoria..	14	208.85
S. Fortieth avenue.....	Taylor.....	W. Sixteenth.....	117	1,283.67
S. Forty-second court.	W. Twelfth.....	W. Fourteenth.....	49	422.10
S. Forty-second ave.....	C. B. & Q. R. R.....	W. Twenty-sixth.....	7	87.63
W. Fullerton avenue.....	N. Fortieth avenue..	N. Forty-fourth ave..	111	1,851.36
N. Francisco avenue.....	W. Diversey avenue..	Avondale avenue.....	47	442.74
N. Forty-first avenue.....	Armitage avenue.....	Humboldt avenue.....	78	745.63
N. Fifty-second ave.....	C. & N.-W. R. R.....	Augusta.....	180	1,926.50
George.....	Albany avenue.....	California avenue.....	25	266.34
Honore.....	Fifty-third.....	Garfield boulevard..	82	824.72
Howard court.....	Ninety-fifth.....	Ninety-ninth.....	32	361.62
Indiana avenue.....	111th.....	115th.....	16	210.67
Indiana avenue.....	107th.....	111th.....	16	118.26
Justine.....	Sixty-seventh.....	Sixty-ninth.....	46	487.93
Kedzie avenue.....	North avenue.....	Augusta.....	104	780.00
La Salle.....	115th.....	119th.....	25	259.51
Lafin.....	W. Sixty-seventh.....	W. Sixty-ninth.....	49	453.68
Michigan avenue.....	Ninety-ninth.....	109th.....	44	538.93
Monticello avenue.....	Chicago avenue.....	Le Moyne.....	33	359.60
Ogden avenue.....	S. Forty-second ave..	S. Forty-fourth ave..	50	550.12
109th.....	Michigan avenue.....	1st alley W. of Princeton ave.	21	183.07
110th.....	Michigan avenue.....	1st alley W. of Princeton ave.	90	958.80
110th place.....	Michigan avenue.....	1st alley W. of Princeton ave.	63	584.09
112th.....	Michigan avenue.....	Stewart avenue.....	86	749.97
112th place.....	Michigan avenue.....	Stewart avenue.....	73	750.83
117th.....	Michigan avenue.....	State.....	10	70.78
117th place.....	Michigan avenue.....	State.....	7	70.92
118th place.....	Michigan avenue.....	State.....	8	84.96
117th.....	Wentworth avenue..	Perry.....	11	101.01
116th.....	Wentworth avenue..	Michigan avenue.....	43	429.18
115th.....	Wentworth avenue..	Michigan avenue.....	37	381.15
Ontario.....	Willow avenue.....	Fifty-second avenue..	8	93.60
Ohio.....	Willow avenue.....	Fifty-second avenue..	20	181.35
Perry avenue.....	115th.....	119th.....	21	205.96
State.....	109th.....	111th.....	29	314.00

TABLE No. IV—Continued.

STREET.	FROM	TO	No. of Pipes.	Total Cost.
Sacramento avenue....	Milwaukee avenue ..	Humboldt boulevard.	8	\$ 89.28
St. Louis avenue	W. Twenty-sixth.....	W. Twenty-eighth....	73	691.71
Sixty-seventh	State.....	P., Ft. W. R. R.....	7	78.69
Sixty-fourth.....	132 ft. E. of Drisel boul	South Park avenue....	10	94.16
South boulevard.....	Park avenue	Austin avenue.....	16	139.84
Sacramento avenue....	Diversey avenue.....	Wellington avenue....	28	235.50
W. Twenty-fifth.....	S. Fortieth avenue....	S. Forty-third court..	91	810.90
W. Twenty-fifth place	S. Fortieth avenue....	S. Forty-third court..	31	302.95
W. Twenty-fourth pl	S. Fortieth avenue....	S. Forty-third court..	27	234.47
W. Twenty third.....	Kedzie avenue	Homan avenue.....	20	208.78
Troy.....	Belmont avenue.....	Elston avenue.....	77	754.17
Vernon avenue.....	Sixty-third	Sixty-seventh.....	154	1,438.88
Whipple.....	Diversey avenue.....	Avondale avenue.....	61	604.57
Wabash avenue.....	108th	110th	7	60.68
Wentworth avenue....	109th	111th	24	200.00
Wentworth avenue....	103d	105th	111	935.59
Total.....			3,107	\$30,205.08
Average cost per pipe under contract let in 1898.....				\$14.83 _{1/2}
Average cost per pipe under contract let in 1899.....				10.13 _{1/2}
Average cost per pipe under contract let in 1900.....				9.79 _{1/2}
Average cost per pipe under contract let in 1901.....				9.72 _{1/2}

TABLE No. V.

DIVISION OF PERMITS.

SCREW FERRULES INSERTED DURING THE YEAR 1901.

MONTHS.	$\frac{3}{4}$ -inch Ferrules Inserted.	$\frac{1}{2}$ -inch Ferrules Inserted.	1-inch Ferrules Inserted.	Total of Screw Ferrules Inserted.
January	77	72	13	162
February	17	14	12	43
March	63	188	23	269
April	223	680	37	940
May	201	521	23	745
June	149	683	29	861
July	177	634	30	841
August	223	491	26	740
September	195	521	27	743
October	200	782	30	1,012
November	188	766	29	983
December	75	186	23	234
Total	1,788	5,483	302	7,573
1900	1,556	7,981	178	9,915



18TH STREET TRACK ELEVATION—FULLER AND SHORT STREETS.

100

TABLE No. VI.**RE TAPS INSERTED DURING THE YEAR 1901.**

$\frac{5}{8}$ -inch.....	314
$\frac{3}{4}$ -inch.....	218
1-inch.....	87
Total.....	564

The number of applications made at this office for ferrules to water service pipes during the past year (exclusive of City contracts and re-taps) were as follows:

	Ferrules Inserted During 1901.	Ferrules Inserted During 1900.
Inserted in old part of City.....	782	692
Inserted in Calumet.....	272	306
Inserted in Cicero.....	383	340
Inserted in Hyde Park.....	519	166
Inserted in Jefferson.....	537	418
Inserted in Lake View.....	915	397
Inserted in Town of Lake.....	465	325
Total.....	3,873	2,604

TABLE No. VII.**PERMITS WERE ISSUED DURING THE YEAR 1901 AS FOLLOWS:**

	Permits Issued During 1901.	Permits Issued During 1900.
For tapping water mains for pipes to inside curb for future use.....	3,136	6,650
For tapping water mains for service pipes to houses not previously supplied.....	3,973	2,394
For connection to service pipes inside curb.....	673	281
For 8-inch cast iron pipes to be used as service pipes....	4	2
For 6-inch cast iron pipes to be used as service pipes....	13	10
For 4-inch cast iron pipes to be used as service pipes....	38	40
For 3-inch cast iron pipes to be used as service pipes....	13	12
For 2-inch cast iron pipes to be used as service pipes....	91	58
For $1\frac{1}{2}$ -inch lead pipes to be used as service pipes.....	127	87
For $1\frac{1}{4}$ -inch lead pipes to be used as service pipes.....	47	12
For miscellaneous or special permits.....	368	115
Total.....	8,383	9,693

TABLE No. VIII.

TABULATED STATEMENT SHOWING THE NUMBER OF FERRULES INSERTED EACH YEAR FOR THE LAST TWENTY-TWO YEARS, AND THE TOTAL NUMBER IN USE DECEMBER 31, 1901.

YEAR.	Original Town.	*Lake View.	Hyde Park.	*Town of Lake.	*Calumet	*Cicero.	*Jefferson.	Total.
1880.....	63,510							63,510
1880.....	4,439							4,439
1881.....	5,678							5,678
1882.....	5,213							5,213
1883.....	6,656							6,656
1884.....	6,637							6,637
1885.....	6,555							6,555
1886.....	8,083							8,083
1887.....	8,808							8,808
1888.....	10,089							10,089
1889.....			68,775					8,775
1889.....	7,617	889	1,730	1,286				11,522
1890.....	10,127	3,440	3,893	3,951	152	289	20	21,812
1891.....	10,237	2,458	5,658	4,165	284	59	570	23,381
1892.....	7,224	3,173	4,813	3,882	271	63	2,146	21,572
1893.....	7,990	2,334	3,586	4,223	308	153	1,435	20,029
1894.....	6,642	2,271	2,770	1,922	392	843	1,044	15,884
1895.....	5,015	2,262	3,152	1,750	410	750	1,326	14,665
1896.....	3,551	1,927	2,792	1,838	292	1,663	869	12,932
1897.....	2,607	851	891	2,552	197	1,004	1,837	9,989
1898.....	1,183	527	1,765	662	242	516	1,312	6,207
1899.....	2,259	966	1,228	790	504	652	1,116	7,515
1900.....	1,239	588	893	1,420	919	2,350	1,635	9,044
1901.....	1,127	946	1,049	773	857	1,042	1,215	7,009
Total.....	192,486	22,632	42,935	29,214	4,778	9,384	14,525	315,954

*Number of ferrules inserted in suburbs previous to annexation unknown.

aNumber of ferrules inserted previous to 1880.

bNumber of ferrules inserted in Hyde Park previous to annexation.

TABLE No. IX.

DIVISION OF PERMITS INCOME ACCOUNT.

DEBIT.		
Stock account January 1, 1901, per inventory.....	\$ 2,451.55	
Amount paid for ferrules.....	\$ 4,445.78	
Amount paid for fittings.....	81.38	
Amount paid for miscellaneous material	439.80	
	4,966.41	
Amount paid for printing and stationery.....	\$ 86.23	
Amount paid for transportation	705.45	
Amount paid for tools, etc.....	37.09	
Amount paid for repairs to tapping machines, etc.	178.23	
Amount paid for miscellaneous.....	51.30	
	1,058.30	
Salaries of clerks	\$ 2,083.07	
Salaries of inspectors.....	10,164.61	
Salaries of tappers	13,129.37	
Salaries of expressmen	11,055.00	
Salaries of laborers.....	7,207.26	
	43,729.31	
	—	\$52,205.57
CREDIT.		
Amount received for inserting ferrules.....	\$15,459.11	
Amount collected through Bureau of Special Assessments for ferrules inserted in street improvements.....	2,329.00	
Earnings for material furnished and labor performed for Bureau of Engineering and Bureau of Streets.....	1,975.72	
	—	\$19,763.83
Stock on hand January 1, 1902, as per inventory...	1,390.32	
	—	\$21,154.15
Net loss to the division (1901).....		31,051.42
Net loss to the division (1900).....		33,151.10



11 26-91 18-50 Track Elevation Fuller Street, N.Y.



TABLE NO. XI.

DETAIL OF GENERAL ASSESSMENT FROM MAY, 1901, TO MAY, 1902.

WARD	Frontage.	Water closets.	Urinals.	Baths.	Wash Basins.	Extra Rooms.	Saltions.	House Trench.	Leaves.	Strain.	Miscellaneous.	Total Assessment.
						Persons.		Foundation.		Electric.		
1st.	\$11,250.00	\$2,572.50	\$1,000.00	\$1,000.00	\$4,200.00	\$4,819.75	\$2,100.00	\$1,271.00	\$10.00	\$2,000.00	\$1,000.00	\$9,750.00
2d.	22,500.00	7,700.00	3,000.00	3,000.00	7,000.00	8,117.25	3,000.00	1,511.00	115.00	600.00	1,000.00	14,750.00
3d.	30,125.00	10,250.00	4,000.00	4,000.00	9,000.00	10,117.25	3,500.00	1,511.00	115.00	600.00	1,000.00	19,750.00
4th.	40,000.00	13,000.00	5,000.00	5,000.00	11,000.00	13,117.25	4,000.00	1,511.00	115.00	600.00	1,000.00	24,750.00
5th.	50,000.00	15,750.00	6,000.00	6,000.00	13,000.00	15,117.25	4,500.00	1,511.00	115.00	600.00	1,000.00	29,750.00
6th.	60,000.00	18,500.00	7,000.00	7,000.00	15,000.00	17,117.25	5,000.00	1,511.00	115.00	600.00	1,000.00	34,750.00
7th.	70,000.00	21,250.00	8,000.00	8,000.00	17,000.00	19,117.25	5,500.00	1,511.00	115.00	600.00	1,000.00	39,750.00
8th.	80,000.00	24,000.00	9,000.00	9,000.00	19,000.00	21,117.25	6,000.00	1,511.00	115.00	600.00	1,000.00	44,750.00
9th.	90,000.00	26,750.00	10,000.00	10,000.00	21,000.00	23,117.25	6,500.00	1,511.00	115.00	600.00	1,000.00	49,750.00
10th.	100,000.00	29,500.00	11,000.00	11,000.00	23,000.00	25,117.25	7,000.00	1,511.00	115.00	600.00	1,000.00	54,750.00
11th.	110,000.00	32,250.00	12,000.00	12,000.00	25,000.00	27,117.25	7,500.00	1,511.00	115.00	600.00	1,000.00	59,750.00
12th.	120,000.00	35,000.00	13,000.00	13,000.00	27,000.00	29,117.25	8,000.00	1,511.00	115.00	600.00	1,000.00	64,750.00
13th.	130,000.00	37,750.00	14,000.00	14,000.00	29,000.00	31,117.25	8,500.00	1,511.00	115.00	600.00	1,000.00	69,750.00
14th.	140,000.00	40,500.00	15,000.00	15,000.00	31,000.00	33,117.25	9,000.00	1,511.00	115.00	600.00	1,000.00	74,750.00
15th.	150,000.00	43,250.00	16,000.00	16,000.00	33,000.00	35,117.25	9,500.00	1,511.00	115.00	600.00	1,000.00	79,750.00
16th.	160,000.00	46,000.00	17,000.00	17,000.00	35,000.00	37,117.25	10,000.00	1,511.00	115.00	600.00	1,000.00	84,750.00
17th.	170,000.00	48,750.00	18,000.00	18,000.00	37,000.00	39,117.25	10,500.00	1,511.00	115.00	600.00	1,000.00	89,750.00
18th.	180,000.00	51,500.00	19,000.00	19,000.00	39,000.00	41,117.25	11,000.00	1,511.00	115.00	600.00	1,000.00	94,750.00
19th.	190,000.00	54,250.00	20,000.00	20,000.00	41,000.00	43,117.25	11,500.00	1,511.00	115.00	600.00	1,000.00	99,750.00
20th.	200,000.00	57,000.00	21,000.00	21,000.00	43,000.00	45,117.25	12,000.00	1,511.00	115.00	600.00	1,000.00	104,750.00
21st.	210,000.00	59,750.00	22,000.00	22,000.00	45,000.00	47,117.25	12,500.00	1,511.00	115.00	600.00	1,000.00	109,750.00
22d.	220,000.00	62,500.00	23,000.00	23,000.00	47,000.00	49,117.25	13,000.00	1,511.00	115.00	600.00	1,000.00	114,750.00
23d.	230,000.00	65,250.00	24,000.00	24,000.00	49,000.00	51,117.25	13,500.00	1,511.00	115.00	600.00	1,000.00	119,750.00
24th.	240,000.00	68,000.00	25,000.00	25,000.00	51,000.00	53,117.25	14,000.00	1,511.00	115.00	600.00	1,000.00	124,750.00
25th.	250,000.00	70,750.00	26,000.00	26,000.00	53,000.00	55,117.25	14,500.00	1,511.00	115.00	600.00	1,000.00	129,750.00
26th.	260,000.00	73,500.00	27,000.00	27,000.00	55,000.00	57,117.25	15,000.00	1,511.00	115.00	600.00	1,000.00	134,750.00
27th.	270,000.00	76,250.00	28,000.00	28,000.00	57,000.00	59,117.25	15,500.00	1,511.00	115.00	600.00	1,000.00	139,750.00
28th.	280,000.00	79,000.00	29,000.00	29,000.00	59,000.00	61,117.25	16,000.00	1,511.00	115.00	600.00	1,000.00	144,750.00
29th.	290,000.00	81,750.00	30,000.00	30,000.00	61,000.00	63,117.25	16,500.00	1,511.00	115.00	600.00	1,000.00	149,750.00
30th.	300,000.00	84,500.00	31,000.00	31,000.00	63,000.00	65,117.25	17,000.00	1,511.00	115.00	600.00	1,000.00	154,750.00
31st.	310,000.00	87,250.00	32,000.00	32,000.00	65,000.00	67,117.25	17,500.00	1,511.00	115.00	600.00	1,000.00	159,750.00
32d.	320,000.00	90,000.00	33,000.00	33,000.00	67,000.00	69,117.25	18,000.00	1,511.00	115.00	600.00	1,000.00	164,750.00
33d.	330,000.00	92,750.00	34,000.00	34,000.00	69,000.00	71,117.25	18,500.00	1,511.00	115.00	600.00	1,000.00	169,750.00
34th.	340,000.00	95,500.00	35,000.00	35,000.00	71,000.00	73,117.25	19,000.00	1,511.00	115.00	600.00	1,000.00	174,750.00
35th.	350,000.00	98,250.00	36,000.00	36,000.00	73,000.00	75,117.25	19,500.00	1,511.00	115.00	600.00	1,000.00	179,750.00
36th.	360,000.00	101,000.00	37,000.00	37,000.00	75,000.00	77,117.25	20,000.00	1,511.00	115.00	600.00	1,000.00	184,750.00
37th.	370,000.00	103,750.00	38,000.00	38,000.00	77,000.00	79,117.25	20,500.00	1,511.00	115.00	600.00	1,000.00	189,750.00
38th.	380,000.00	106,500.00	39,000.00	39,000.00	79,000.00	81,117.25	21,000.00	1,511.00	115.00	600.00	1,000.00	194,750.00
39th.	390,000.00	109,250.00	40,000.00	40,000.00	81,000.00	83,117.25	21,500.00	1,511.00	115.00	600.00	1,000.00	199,750.00
40th.	400,000.00	112,000.00	41,000.00	41,000.00	83,000.00	85,117.25	22,000.00	1,511.00	115.00	600.00	1,000.00	204,750.00
41st.	410,000.00	114,750.00	42,000.00	42,000.00	85,000.00	87,117.25	22,500.00	1,511.00	115.00	600.00	1,000.00	209,750.00
42d.	420,000.00	117,500.00	43,000.00	43,000.00	87,000.00	89,117.25	23,000.00	1,511.00	115.00	600.00	1,000.00	214,750.00
43d.	430,000.00	120,250.00	44,000.00	44,000.00	89,000.00	91,117.25	23,500.00	1,511.00	115.00	600.00	1,000.00	219,750.00
44th.	440,000.00	123,000.00	45,000.00	45,000.00	91,000.00	93,117.25	24,000.00	1,511.00	115.00	600.00	1,000.00	224,750.00
45th.	450,000.00	125,750.00	46,000.00	46,000.00	93,000.00	95,117.25	24,500.00	1,511.00	115.00	600.00	1,000.00	229,750.00
46th.	460,000.00	128,500.00	47,000.00	47,000.00	95,000.00	97,117.25	25,000.00	1,511.00	115.00	600.00	1,000.00	234,750.00
47th.	470,000.00	131,250.00	48,000.00	48,000.00	97,000.00	99,117.25	25,500.00	1,511.00	115.00	600.00	1,000.00	239,750.00
48th.	480,000.00	134,000.00	49,000.00	49,000.00	99,000.00	101,117.25	26,000.00	1,511.00	115.00	600.00	1,000.00	244,750.00
49th.	490,000.00	136,750.00	50,000.00	50,000.00	101,000.00	103,117.25	26,500.00	1,511.00	115.00	600.00	1,000.00	249,750.00
50th.	500,000.00	139,500.00	51,000.00	51,000.00	103,000.00	105,117.25	27,000.00	1,511.00	115.00	600.00	1,000.00	254,750.00
51st.	510,000.00	142,250.00	52,000.00	52,000.00	105,000.00	107,117.25	27,500.00	1,511.00	115.00	600.00	1,000.00	259,750.00
52d.	520,000.00	145,000.00	53,000.00	53,000.00	107,000.00	109,117.25	28,000.00	1,511.00	115.00	600.00	1,000.00	264,750.00
53d.	530,000.00	147,750.00	54,000.00	54,000.00	109,000.00	111,117.25	28,500.00	1,511.00	115.00	600.00	1,000.00	269,750.00
54th.	540,000.00	150,500.00	55,000.00	55,000.00	111,000.00	113,117.25	29,000.00	1,511.00	115.00	600.00	1,000.00	274,750.00
55th.	550,000.00	153,250.00	56,000.00	56,000.00	113,000.00	115,117.25	29,500.00	1,511.00	115.00	600.00	1,000.00	279,750.00
56th.	560,000.00	156,000.00	57,000.00	57,000.00	115,000.00	117,117.25	30,000.00	1,511.00	115.00	600.00	1,000.00	284,750.00
57th.	570,000.00	158,750.00	58,000.00	58,000.00	117,000.00	119,117.25	30,500.00	1,511.00	115.00	600.00	1,000.00	289,750.00
58th.	580,000.00	161,500.00	59,000.00	59,000.00	119,000.00	121,117.25	31,000.00	1,511.00	115.00	600.00	1,000.00	294,750.00
59th.	590,000.00	164,250.00	60,000.00	60,000.00	121,000.00	123,117.25	31,500.00	1,511.00	115.00	600.00	1,000.00	299,750.00
60th.	600,000.00	167,000.00	61,000.00	61,000.00	123,000.00	125,117.25	32,000.00	1,511.00	115.00	600.00	1,000.00	304,750.00
61st.	610,000.00	169,750.00	62,000.00	62,000.00	125,000.00	127,117.25	32,500.00	1,511.00	115.00	600.00	1,000.00	309,750.00
62d.	620,000.00	172,500.00	63,000.00	63,000.00	127,000.00	129,117.25	33,000.00	1,511.00	115.00	600.00	1,000.00	314,750.00
63d.	630,000.00	175,250.00	64,000.00	64,000.00	129,000.00	131,117.25	33,500.00	1,511.00	115.00	600.00	1,000.00	319,750.00
64th.	640,000.00	178,000.00	65,000.00	65,000.00	131,000.00	133,117.25	34,000.00	1,511.00	115.00	600.00	1,000.00	324,750.00
65th.	650,000.00	180,750.00	66,000.00	66,000.00	133,000.00	135,117.25	34,500.00	1,511.00	115.00	600.00	1,000.00	329,750.00
66th.	660,000.00	183,500.00	67,000.00	67,000.00	135,000.00	137,117.25	35,000.00	1,511.00	115.00	600.00	1,000.00	334,750.00
67th.	670,000.00	186,250.00	68,000.00	68,000.00	137,000.00	139,117.25	35,500.00	1,511.00	115.00	600.00	1,000.00	339,750.00
68th.	680,000.00	189,000.00	69,000.00	69,000.00	139,000.00	141,117.25	36,000.00	1,511.00	115.00	600.00	1,000.00	344,750.00
69th.	690,000.00	191,750.00	70,000.00	70,000.00								

TABLE No. XII.

DETAILED STATEMENT OF ASSESSOR'S MISCELLANEOUS RECEIPTS
FOR 1901.

1901.	Shut-off for Leak and Waste.	Sprinkling.	Tug Boats.	Miscellaneous.	Total.
January	\$ 24.75	.....	.....	.....	\$ 24.75
February	6.00	.....	.....	\$ 19.50	25.50
March	14.87	.....	.....	.....	14.87
April	25.25	.....	.....	20.00	45.25
May	10.25	\$ 1,925.00	\$10.00	76.00	2,021.25
June	29.97	2,186.29	.....	33.75	2,255.01
July	6.75	2,250.00	.....	111.98	2,368.73
August	2.25	2,350.00	.....	107.66	2,459.91
September	14.38	2,000.00	.....	130.39	2,144.77
October	11.25	1,025.00	.....	184.72	1,220.97
November	37.00	.....	.....	57.35	94.35
December	5.75	.....	.....	79.75	85.50
Total	\$188.47	\$11,736.29	\$10.00	\$826.10	\$12,760.86

In addition to the above, the sum of \$2,616.44 was collected by the City Comptroller for use of water in construction of cement sidewalks, etc. This is accounted for in Table XXIII (Income Account).

TABLE No. XIII.

METER MECHANICAL DIVISION.

Number of meters in service, December 31, 1900.....	6,396
Number of meters set in new location during 1901	376
Total number of meters in service during 1901.....	6,772
Number of meters removed—property assessed—during 1901	21
Number of meters removed—supply cut off—during 1901.....	7
Number of meters removed and not replaced during 1901	16
Total number of meters removed permanently during 1901.....	44
Total number of meters in use December 31, 1901.....	6,728
Total number of meters in use December 31, 1900.....	6,396
Increase in number of meters in use year ending December 31, 1901.	332
Number of meters set in new location during 1901.....	376
Number of meters set replacing others during 1901.....	22
Total number of meters set during 1901.....	398
Number of meters in stock January 1, 1901.....	38
Number of meters placed in stock during 1901.....	31
Number of meters furnished by private parties during 1901	894
Total number of meters on hand during 1901.....	467
Number of meters set during 1901	398
Number of meters on hand January 1, 1902.....	69
Number of meters repaired during 1901, for which bills were rendered...	2,729
Number of meters removed to shop and reset during 1901	168

The net addition to the meters in service for the year 1901 is 332, as compared with 211 for the previous year.

The number of meters repaired during the year was 2,729, as compared with 3,433 during the year 1900.



44 B-15-01/8th St. Truck Elevation - Fuller St. looking north.

TABLE No. XV.

SHOWING WATER METERS IN USE AND HOW DISTRIBUTED.

Stores and flats	1,095
Business houses	1,134
Residence and apartment buildings	1,157
Railroads	525
Manufactories	1,242
Breweries	145
Liveries	185
Packing houses	126
Laundries	123
Hotels	238
Office buildings	242
Theaters	25
Miscellaneous	417
Charitable institutions	74
Total	6,728

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Office buildings.....	242
Theaters.....	25
Miscellaneous.....	417
Charitable institutions	74
Total	6,728

TABLE No. XVI.
METER MECHANICAL DIVISION.
INCOME ACCOUNT.

DEBIT.			
Stock account per inventory January 1, 1901—			
Comprising material.....	\$7,215.81		
and bills receivable.....	4,704.58		
			\$11,920.39
Amount paid for meters.....	25.00		
Amount paid for covers and frames.....	1,398.40		
Amount paid for fittings and couplings.....	4,297.38		
Amount paid for lumber.....	528.45		
			6,244.23
Amount paid for printing and stationery.....	105.90		
Amount paid for transportation.....	49.45		
Amount paid for horse feed, etc.....	296.65		
Amount paid for tools and repairs.....	1,776.39		
Amount paid for matches, oil, nails, etc.....	50.65		
			2,279.04
Salary of foreman.....	1 500.00		
Salaries of clerks.....	2,056.73		
Salaries of meter setters.....	5,612.25		
Salaries of laborers.....	1,425.86		
Salaries of expressmen.....	2,784.75		
			18,379.09
			\$33,822.75
CREDIT.			
Cash received for meters 2 inches and over.....		\$ 2,357.45	
Cash received for material sold from stock on hand.....	\$4,842.01		
Cash received for repairing meters.....	8,911.14		
Earnings account, Bureau of Engineering, for material furnished.....	17.00		
			18,770.15
Amount due and uncollected for repairs.....	4,179.02		
Stock on hand as per inventory December 31, 1901.....	7,767.04		
			11,946.06
			\$28,073.66
Net loss to the division.....			\$5,749.09

NOTE.—The Meter Mechanical Division of the bureau is conducted at a loss to the City, as may be seen by a comparison of the dates and figures following:

1896. Net loss.....	\$11,812.57
1897. Net loss.....	11,703.05
1898. Net loss.....	8,455.81
1899. Net loss.....	8,284.04
1900. Net loss.....	5,624.84

It may be observed in comparing these figures that the loss of this division for the year 1900 was \$5,624.84, and for the year 1901 \$5,749.09.

TABLE No. XVII.
ANALYSIS OF LEDGER ASSESSED RATES ACCOUNT.

WARD.	Balance Jan. 1, 1901.	General Assessment.	DEBIT.			CREDIT.			Balance Dec. 31, 1901	Total.
			Refunds.	Increases.	Discounts.	Decreases.	Discounts.	Collections.		
1.	\$ 8,977.51	\$ 39,753.70	\$ 1,651.14	\$ 1,651.14	\$ 8.13	\$ 6,098.29	\$ 4,611.39	\$ 31,849.72	\$ 7,359.24	\$ 60,549.65
2.	8,058.47	41,971.00	2,536.43	2,536.43	8.50	6,941.78	2,250.91	45,052.73	8,257.44	56,232.96
3.	6,417.55	52,815.25	3,042.15	3,042.15	7.26	1,122.16	6,867.50	45,066.85	6,473.43	68,259.94
4.	14,480.77	64,494.45	1,247.60	1,247.60	17.81	14,341.81	7,969.70	52,008.17	5,643.73	80,788.37
5.	5,266.26	57,919.76	511.02	511.02	6.41	61,082.45	7,718.53	16,007.48	6,122.35	64,012.45
6.	9,069.87	63,644.25	504.71	504.71	10.06	4,265.19	8,909.25	52,022.85	8,201.15	73,818.54
7.	4,881.80	41,503.65	501.44	501.44	5.13	44,008.45	5,514.81	33,113.51	4,616.69	46,868.45
8.	4,090.91	41,003.50	533.63	533.63	8.21	45,696.91	5,651.34	34,874.71	2,908.20	45,008.91
9.	3,718.77	56,404.00	515.83	515.83	8.11	2,254.06	1,757.06	46,704.47	3,024.20	60,701.97
10.	5,894.56	109,841.50	6,162.72	6,162.72	19.73	3,125.64	10,290.20	98,188.91	8,479.49	126,159.59
11.	7,809.44	64,800.05	824.54	824.54	17.71	4,268.62	1,757.06	58,710.82	7,984.22	73,067.79
12.	16,513.44	146,829.75	1,737.77	1,737.77	11.75	8,102.24	19,778.26	136,297.55	14,741.80	186,860.79
13.	12,067.16	79,000.75	1,737.77	1,737.77	11.75	4,111.47	10,290.20	98,188.91	12,571.80	93,922.13
14.	6,172.34	114,619.75	8,671.20	8,671.20	18.23	9,469.93	15,407.19	94,188.91	5,465.61	124,517.01
15.	11,680.12	117,287.00	5,329.23	5,329.23	13.55	14,407.93	15,731.44	93,786.91	11,071.27	194,807.98
16.	4,622.13	75,328.75	684.95	684.95	13.55	4,757.62	4,835.70	91,561.52	4,257.37	80,646.98
17.	7,824.97	37,621.50	1,301.47	1,301.47	2.64	46,845.19	4,835.70	31,561.52	7,834.70	46,845.19
18.	12,845.35	44,678.00	109.24	109.24	18.78	4,284.46	5,518.25	35,746.81	12,826.85	57,476.37
19.	3,555.35	56,753.50	912.83	912.83	9.45	5,021.21	7,251.24	45,501.32	8,242.79	68,254.31
20.	3,555.35	66,035.25	2,197.06	2,197.06	6.67	55,067.34	6,591.46	40,708.52	3,722.87	65,027.34
21.	3,050.03	56,141.05	4,706.66	4,706.66	9.03	62,094.74	6,138.87	46,362.93	2,919.02	62,094.74
22.	3,050.03	58,679.50	1,869.36	1,869.36	14.04	60,083.52	8,943.85	45,193.87	2,919.02	62,094.74
23.	6,217.41	57,500.75	4,152.47	4,152.47	7.11	60,043.64	4,297.17	45,193.87	6,512.30	69,448.64
24.	6,529.09	56,566.50	1,306.66	1,306.66	6.11	4,726.99	7,341.02	46,448.81	6,519.47	66,432.79
25.	9,206.32	106,374.75	1,306.66	1,306.66	28.33	5,404.87	15,110.84	95,372.40	5,190.07	121,110.84
26.	9,206.32	119,495.25	6,089.44	6,089.44	21.29	6,176.50	15,110.84	104,205.14	7,667.74	144,367.75
27.	12,934.34	60,161.00	5,508.96	5,508.96	14.59	6,223.67	7,589.29	53,283.18	22,000.97	88,086.06
28.	10,892.34	60,304.85	3,902.41	3,902.41	8.65	8,109.62	6,223.73	42,866.18	10,823.81	62,623.87
29.	14,949.26	50,304.85	1,517.90	1,517.90	26.79	4,574.51	30,394.55	11,971.43	13,138.37	66,473.74
30.	23,829.09	136,736.00	3,582.79	3,582.79	30.96	9,349.60	12,570.50	126,168.30	22,445.37	158,513.67
31.	31,421.41	100,697.00	3,073.03	3,073.03	28.76	13,510.89	16,919.15	84,976.30	28,718.35	135,519.89
32.	11,921.33	129,072.00	7,053.03	7,053.03	28.76	8,921.91	16,919.15	111,019.15	10,973.88	117,734.51
33.	14,374.52	62,896.45	3,753.80	3,753.80	14.02	11,183.97	8,072.16	53,267.19	14,342.52	81,138.57
34.	29,231.75	165,005.50	9,092.19	9,092.19	30.59	11,569.87	19,968.87	134,911.35	27,404.62	182,776.07
35.	447.00	447.00	314.42	314.42	.....	56.22	56.22	455.86	21.29	764.07
Total	\$ 67,755.76	\$ 2,500,646.00	\$ 101,462.97	\$ 101,462.97	\$ 443.29	\$ 300,421.41	\$ 87,670.97	\$ 2,133,353.52	\$ 300,026.74	\$ 3,036,021.01

TABLE No. XVIII.

SHOWING NET COLLECTIONS FROM ALL SOURCES FOR THE
YEAR 1901, AS COMPARED WITH 1900.

SOURCES.	1900.	1901.	Increase.	Decrease.	Net Increase.
Assessed rates.....	\$2,054,634.85	\$2,149,255.08	\$ 94,620.23		
Meter rates.....	1,143,533.15	1,197,405.06	53,871.91		
Permit Division.....	18,812.91	19,763.83	950.92		
Assessor's miscellaneous.	12,876.21	15,377.30	2,501.09		
Meter Mechanical Division.....	18,554.24	16,127.60		\$2,426.64	
Total.....	\$3,248,411.36	\$3,397,928.87	\$151,944.15	\$2,426.64	\$149,517.51



7-10-01 18th St. Track Elevation.
Foller St. looking South.

DEPARTMENT OF PUBLIC WORKS.

TABLE No. XX.
DETAILED STATEMENT OF PAY-ROLLS FOR THE YEAR ENDING DECEMBER 31, 1901.

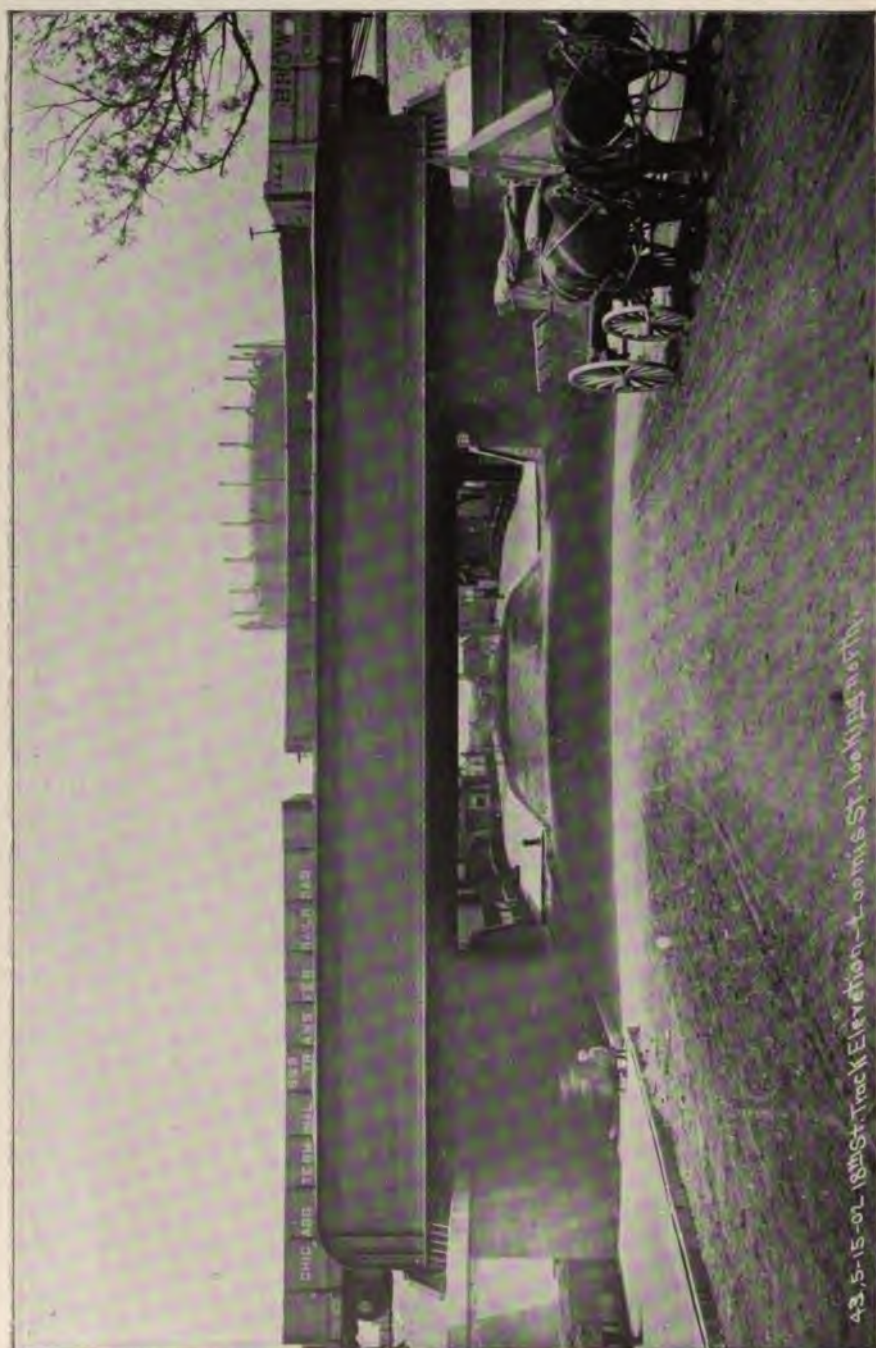
MONTHS.		DIVISIONS.						
	Assessor's.	Collection.	Inspection.	Meter Rates.	Meter Mechanical.	Permit.	Shut-Off.	Total.
January	\$ 1,786.37	\$ 3,587.42	\$ 2,737.50	\$ 2,307.75	\$ 1,060.75	\$ 3,127.30	807.25	\$ 17,414.24
February	1,773.77	3,470.22	2,637.05	2,130.75	1,003.00	2,911.77	2,505.75	16,432.31
March	3,078.38	7,088.73	5,866.51	2,909.50	1,278.49	4,711.13	2,800.50	27,188.24
April	2,230.74	4,696.06	3,542.50	2,897.00	1,054.33	3,620.42	2,738.00	20,269.05
May	1,592.49	4,651.86	3,537.50	2,464.00	1,145.83	3,894.67	1,927.25	19,218.10
June	1,555.03	4,428.67	3,630.00	2,319.00	1,061.58	3,518.87	1,769.00	18,282.40
July	1,554.99	4,258.22	3,530.24	2,455.43	1,088.10	3,808.34	2,854.25	19,549.62
August	1,554.99	4,547.82	3,345.16	2,491.00	1,149.53	3,909.09	3,813.75	19,781.39
September	1,555.08	4,604.67	3,275.00	2,346.00	1,109.83	3,457.23	2,603.75	18,951.51
October	1,555.04	4,673.61	3,236.30	2,408.50	1,157.82	3,705.03	2,087.00	18,823.30
November	1,561.17	4,694.30	3,212.50	2,387.00	1,148.45	3,556.04	2,211.50	18,770.96
December	1,721.72	4,438.96	3,258.06	2,402.00	1,121.08	3,509.42	2,387.00	18,888.24
Total, 1901	\$ 21,519.72	\$ 55,090.64	\$ 41,308.32	\$ 28,977.98	\$ 13,379.00	\$ 43,729.31	\$ 39,505.00	\$ 233,510.06
Total, 1900	\$ 21,190.33	\$ 63,394.96	\$ 41,547.20	\$ 31,066.50	\$ 13,097.91	\$ 41,712.48	\$ 31,354.50	\$ 245,363.88

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TABLE NO. XX.
DETAILED STATEMENT OF PAY-ROLLS FOR THE YEAR ENDING DECEMBER 31, 1901.

MONTHS.	DIVISIONS.							
	Assessor's.	Collection.	Inspection.	Meter Rates.	Meter Mechanical.	Permit.	Shut-Off.	Total.
January	\$ 1,786.37	\$ 3,587.42	\$ 2,737.50	\$ 2,307.75	\$ 1,060.75	\$ 3,127.30	807.25	\$ 17,414.24
February	1,773.77	3,470.22	2,637.05	2,130.75	1,003.00	2,911.77	2,505.75	16,432.31
March	3,073.38	7,038.73	5,866.51	2,909.50	1,278.49	4,711.13	2,800.50	27,188.24
April	2,230.74	4,696.66	3,542.50	2,387.00	1,054.33	3,620.42	2,738.00	20,269.65
May	1,592.40	4,651.36	3,537.50	2,464.00	1,145.83	3,894.67	1,927.25	19,213.10
June	1,555.03	4,428.67	3,630.00	2,319.00	1,061.58	3,518.87	1,769.00	18,282.40
July	1,554.99	4,258.22	3,530.24	2,455.48	1,088.10	3,808.34	2,854.25	19,549.62
August	1,554.99	4,547.82	3,345.16	2,461.00	1,149.53	3,909.09	3,813.75	19,781.39
September	1,555.08	4,604.67	3,275.00	2,346.00	1,109.83	3,457.28	2,603.75	18,951.51
October	1,555.04	4,673.61	3,236.80	2,408.50	1,157.82	3,705.03	2,087.00	18,823.30
November	1,561.17	4,694.30	3,212.50	2,387.00	1,148.45	3,556.04	2,211.50	18,770.96
December	1,721.72	4,438.96	3,258.06	2,402.00	1,121.08	3,509.42	2,387.00	18,888.24
Total, 1901	\$ 21,519.72	\$ 55,090.64	\$ 41,308.32	\$ 28,977.98	\$ 13,379.09	\$ 43,729.31	\$ 29,505.00	\$ 233,510.06
Total, 1900	\$ 24,190.33	\$ 62,894.96	\$ 41,547.20	\$ 31,066.50	\$ 13,097.91	\$ 41,712.48	\$ 31,354.50	\$ 245,363.88

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43.5-15-07. 18th St. Track Elevation - L. Morris St. looking north.

TABLE NO. XXI.
DETAILS OF MISCELLANEOUS EXPENSES OF THE WATER OFFICE FOR THE YEAR 1901.

MONTHS.	Binding Vouchers.	Postage.	Railroad Tickets.	Street Car Tickets.	Stationery.	Sundries.	Shut-off Tools.	Total.
January.....	\$ 2.00	.....	\$ 20.80	\$ 275.20	\$ 254.84	\$ 303.47	\$ 41.47	\$ 867.78
February.....	4.00	.....	21.80	249.40	105.45	42.20	.....	422.85
March.....	2.00	\$ 300.00	6.80	206.40	389.58	.....	18.66	923.44
April.....	2.00	.....	41.40	251.55	146.00	2.95	.....	443.90
May.....	.....	1,840.00	25.50	148.35	251.24	1.36	.....	1,726.45
June.....	87.82	2,000.00	.....	.....	119.49	53.90	.....	2,210.71
July.....	2.00	810.00	40.65	185.45	1,438.08	180.78	.78	2,103.29
August.....	.....	300.00	.....	.....	86.32	131.80	14.08	532.20
September.....	41.48	.....	15.05	206.40	226.07	244.35	.....	733.35
October.....	2.10	.....	12.00	225.75	226.70	39.94	16.17	512.56
November.....	2.00	2,510.00	8.10	243.85	499.47	53.13	12.88	3,326.08
December.....	2.00	1,240.00	92.05	483.75	492.86	180.02	.....	2,530.68
Total.....	\$96.80	\$4,000.00	\$284.15	\$2,425.20	\$4,201.70	\$1,223.90	\$103.40	\$16,335.24

TABLE NO. XXII.
WORK PERFORMED BY THE LEAK, WASTE AND SHUT-OFF DIVISION.

1901.	Leak and Waste Notices Served.	Shut-Off Notices Served.	Shut Off for Back Taxes.	Shut Off by Request of Owner.	Shut Off for Leaks.	Water Turned On and Permits Issued.	Water Turned On by Request of Owner.	Charges for Shutting Off Water.	Complaints Investigated.
January.....	275	4,200	500	158	20	175	28	\$ 330.00	155
February.....	334	6,000	190	80	22	184	20	343.75	120
March.....	260	3,327	186	25	8	250	18	108.87	260
April.....	320*	2,625	644	17	80*	640	20	887.25	290*
May.....	.....	1,817	490	85	.....	650	76	2,125.00	.....
June.....	.....	1,248	359	131	.....	300	90	204.25	.....
July.....	.....	5,012	785	94	.....	550	94	490.52	.....
August.....	.....	6,201	682	57	.....	600	56	1,561.88	.....
September.....	.....	2,300	550	11	.....	650	40	1,484.26	.....
October.....	.....	2,011	345	52	.....	375	36	851.50	.....
November.....	.....	1,542	175	173	.....	200	90	211.61	.....
December.....	.....	1,024	120	351	.....	180	94	91.50	.....
Total.....	1,189	37,307	5,026	1,234	80	4,874	662	\$8,789.39	815

* On May 1, 1901, the "Leak and Waste" work was transferred to the Bureau of Engineering.

TABLE No. XXIII.

ACCOUNTING DIVISION.

INCOME ACCOUNT.

REVENUE.	
General assessment, May 1, 1901	\$2,560,646.60
Increase to back tax.....	2,094.07
Increase to current tax.....	92,030.40
Increase to shut off.....	8,789.39
	<hr/>
	\$2,663,560.46
Less—	
Discounts allowed.....	\$336,725.98
Erroneous assessments refunded.....	5,484.27
Decreased on account of municipal buildings, in accordance with Section 24 of the City ordinance:	
City property, including City Hall....	\$10,922.25
Police stations.....	1,713.25
Public schools.....	47,814.70
Engine houses.....	2,217.63
	<hr/>
	62,167.83
Decreased on account of charitable, educational and religious institutions, in accordance with Section 24 of the City ordinance:	
Churches and parsonages.....	\$38,285.43
Schools and colleges.....	3,218.50
Hospitals, asylums, homes, etc.....	7,041.75
	<hr/>
	48,526.68
Decreased on account of State property and parks, in accordance with Section 24 of the City ordinance.....	<hr/>
	488.00
Decreased on account of overpayments, as per affidavits and special examinations, build- ings removed and destroyed, changes to meter control and other causes	<hr/>
	68,962.32
Allowance on current bills to cover drawbacks on amounts previously paid on vacant property, in accordance with City ordi- nances.....	<hr/>
	19,777.54
	<hr/>
	542,032.62
Net revenue from assessed rates.	<hr/>
	\$2,121,527.84

Brought forward.....		\$2,121,527.84
Charges as per meter readings.....	\$1,272,099.34	
Less—		
Decrease, account of charitable, educational and religious institutions, in accordance with Section 24 of the City ordinance:		
State Institutions.....	\$ 689.45	
Park Commissioners.....	802.95	
City of Chicago.....	3,753.60	
Churches and parochial schools.	7,994.45	
Hospitals and asylums.....	2,276.10	
Medical and theological colleges and schools.....	2,586 15	
	<u>\$18,102.70</u>	
Decreased on account of erroneous readings, etc.	4,933.20	
	<u>23,035.90</u>	
Net revenue from meter rates.....		\$1,249,063.44
Assessor's miscellaneous charges for sprinkling wagons, tugs, skating rinks, etc.....	\$12,760.86	
Charges for use of water in construction of cement sidewalks, etc.....	2,616.44	
	<u>15,377.30</u>	
		\$3,385,968.58
Less—		
Net loss of operating Division of Permits (see Table IX).....	\$31,051.42	
Net loss of operating Meter Mechanical Division (see Table XVI).....	5,749.09	
	<u>36,800.51</u>	
		\$3,349,168.07
EXPENSES.		
Less—		
Binding vouchers.....	\$ 96.80	
Postage.....	8,000.00	
Railroad transportation.....	284.15	
Street car tickets.....	2,425.20	
Printing and stationery.....	4,201.70	
Shut-off tools, etc.....	108.49	
Miscellaneous.....	1,223.90	
Pay rolls (Meter Mechanical and Permit Divisions omitted).....	176,401 66	
	<u>\$192,736.90</u>	
Rent.....	11,845.00	
Reimbursing Engineer's Bureau.....	1,481.00	
Reimbursing Street Bureau.....	31.78	
Court costs, witness fees, etc.....	24.00	
	<u>206,118.68</u>	
Net income, Bureau of Water.....		\$3,143,049.39

TABLE No. XXIV.
BALANCE SHEET.

DEBIT.		
Balance uncollected, December 31, 1900.....		\$ 432,641.84
Inventory, Meter Mechanical Division, December 31, 1900.....		7,215.81
Inventory, Permit Division, December 31, 1900.....		2,451.55
Disbursements during 1901 for merchandise.....	% 11,210.64	
Disbursements during 1901 for salaries.....	233,510.06	
Disbursements during 1901 for postage.....	8,000.00	
Disbursements during 1901 for sundry expense.....	8,232.33	
Disbursements during 1901 for street car tickets.....	3,461.25	
Disbursements during 1901 for rent.....	11,845.00	
Disbursements during 1901 for reimbursing Bureau of Engineering.....	1,481.00	
Disbursements during 1901 for reimbursing Bureau of Streets.....	31.78	
		277,775.06
Net income, 1901, as per Income Account (see Table No. XXIII).....		3,143,049.39
		\$3,863,133.15
CREDIT.		
Debit balance against Comptroller December 31, 1901, as follows:		
Net collections made by Bureau of Water.....	\$3,388,633.26	
Amount charged Comptroller for collections for large meters.....	2,357.45	
Amount charged Comptroller for earnings of Meter Me- chanical Division for labor and material furnished Bureau of Engineering.....	17.00	
Amount charged Comptroller for collections through special assessment.....	2,329.00	
Amount charged Comptroller for collections for use of water.....	2,616.41	
Amount charged Comptroller for earnings of Permit Division.....	1,975.72	
	— — — — —	3,397,928.87
Inventory, Meter Mechanical Division, December 31, 1901.....		7,767.04
Inventory, Permit Division, December 31, 1901.....		1,300.32
Balance uncollected December 31, 1901, assessed rates ..	330,028.74	
Balance uncollected December 31, 1901, meter rates.....	121,839.16	
Balance uncollected December 31, 1901, Meter Mechan- ical Division.....	1,179.02	
		462,046.92
		\$3,863,133.15

TABLE No. XXV.

SHOWING PER CAPITA CONSUMPTION OF WATER OF TEN PRINCIPAL
CITIES IN THE UNITED STATES.

CITY.	Population.	Consumption per capita per day.
Chicago	2,000,000	172 gallons.
New York	3,437,000	121 "
Philadelphia.....	1,293,000	211 "
Boston.....	560,000	120 "
Cincinnati.....	325,000	114 "
Cleveland.....	381,000	168 "
Buffalo.....	352,000	247 "
San Francisco.....	342,000	80 "
Detroit	285,000	153 "
Pittsburg.....	321,000	230 "

This table is compiled from the best information at hand at the time of the preparation of this report.



11-20-1914. The B. & O. Station - 1000 St. Paul Street

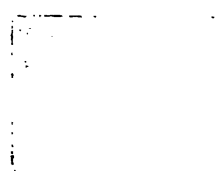


TABLE NO. XXVI.

COMPARISON OF GENERAL ASSESSMENT FOR THE YEARS 1895, 1896, 1897, 1898, 1899, 1900 AND 1901.

	1895.	1896.	1897.	1898.	1899.	1900.	1901.
Frontage.....	\$1,348,042.00	\$1,41	\$1,487,077.50	\$1,475,055.25	\$1,358,846.50	\$1,388,697.00	\$1,408,027.50
Water closets.....	821,237.00	345,825.75	300,141.75	372,827.00	365,894.00	372,265.00	368,982.00
Urinals.....	9,457.00	9,589.50	10,500.25	12,586.00	12,478.00	13,145.00	14,796.50
Baths.....	120,823.00	138,557.75	141,616.00	147,340.75	149,499.50	158,585.50	165,214.00
Wash basins.....	93,269.75	102,403.25	104,550.50	101,904.50	97,516.50	95,258.50	100,388.25
Extra rooms and persons.....	257,759.50	270,020.25	292,580.75	239,954.25	228,787.50	227,803.50	229,486.50
Saloons.....	27,757.00	27,712.00	30,878.00	18,048.50	16,938.50	16,934.00	16,852.50
Hose, trough and fountains.....	75,773.00	100,808.50	105,563.50	82,704.00	80,046.50	87,732.00	92,368.00
Laundries.....	4,389.25	3,238.00	3,105.75	2,971.75	2,639.25	2,702.00	2,838.50
Steam heating and engines.....	36,878.00	34,094.70	27,856.45	27,979.40	24,929.55	24,368.30	29,078.95
Stables.....	68,329.50	68,585.75	60,817.00	70,864.50	68,204.75	71,023.00	72,795.50
Miscellaneous.....	33,925.00	34,021.70	85,174.45	33,249.60	30,823.50	31,382.90	31,829.40
Total.....	\$3,392,640.00	\$2,566,834.90	\$2,619,021.90	\$2,585,185.50	\$2,437,194.05	\$2,489,844.70	\$2,560,610.00



TABLE NO. XXVI.
COMPARISON OF GENERAL ASSESSMENT FOR THE YEARS 1895, 1896, 1897, 1898, 1899, 1900 AND 1901.

	1895.	1896.	1897.	1898.	1899.	1900.	1901.
Frontage.....	\$1,343,042.00	\$1,41	\$1,487,077.50	\$1,475,055.25	\$1,358,846.50	\$1,388,607.00	\$1,406,027.50
Water closets.....	321,237.00	345,823.75	360,141.75	372,827.00	365,894.00	372,265.00	368,982.00
Urinals.....	9,457.00	9,589.50	10,500.25	12,586.00	12,478.00	13,145.00	14,795.50
Baths.....	120,823.00	136,337.75	141,616.00	147,340.75	149,499.50	158,585.50	165,214.00
Wash basins.....	93,569.75	102,403.25	104,550.50	101,904.50	97,516.50	95,254.50	100,388.25
Extra rooms and persons.....	257,759.50	270,020.25	292,580.75	239,054.25	228,797.50	227,803.50	229,486.50
Saloons.....	27,757.00	27,712.00	30,478.00	18,048.50	16,928.50	16,934.00	16,852.50
Hose, trough and fountains.....	75,773.00	106,808.50	105,563.50	82,704.00	80,046.50	87,782.00	92,368.00
Laundries.....	4,389.25	3,228.00	3,465.75	2,971.75	2,639.25	2,702.00	2,833.50
Steam heating and engines.....	36,878.00	34,084.70	27,856.45	27,979.40	24,929.55	24,366.30	29,078.95
Stables.....	68,329.50	68,595.75	69,817.00	70,864.50	68,204.75	71,023.60	72,795.50
Miscellaneous.....	83,925.90	34,021.70	85,174.45	33,249.60	30,823.50	31,382.90	31,829.40
Total.....	\$2,392,640.90	\$2,566,834.90	\$2,619,021.90	\$2,585,185.50	\$2,437,194.05	\$2,489,844.70	\$2,560,646.60

TABLE No. XXVII.

SHOWING NET RECEIPTS AND EXPENSES, AND PER CENT OF
EXPENSES TO COLLECTIONS, FOR THE YEARS
1891 TO 1901, INCLUSIVE.

YEAR.	Receipts.	Expenses.	Per Cent.
1891.....	\$2,331,286.20	\$303,879.86	13
1892.....	2,592,111.67	336,956.79	13
1893.....	2,837,827.35	294,968.60	10 $\frac{5}{8}$
1894.....	3,010,259.92	287,306.92	9 $\frac{5}{8}$
1895.....	3,215,137.10	309,273.30	9 $\frac{5}{8}$
1896.....	3,003,692.61	288,497.84	9 $\frac{5}{8}$
1897.....	3,177,706.83	281,378.72	8 $\frac{5}{8}$
1898.....	3,489,390.87	298,982.07	8 $\frac{5}{8}$
1899.....	3,203,569.71	285,887.71	8 $\frac{5}{8}$
1900.....	3,248,411.36	264,648.64	8 $\frac{1}{10}$
1901.....	3,397,928.87	253,182.64	7 $\frac{5}{10}$

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18TH STREET TRACK ELEVATION—SUBWAY AT CHURCH STREET.

During the year, the United States and Pacific Express Companies, under the contract with the Department of Public Works, made the following collections :

	Number of Bills.	Amount.
From January 8 to July 8, 1901.....	43,143	\$ 215,433.42
From July 10 to January 7, 1902.....	48,960	237,963.67
Total for 1901.....	92,103	\$ 448,396.09
Total for 1900.....	84,026	\$ 401,857.83

INSPECTION DIVISION.

During the year the force of Inspectors has been reduced six in number. Notwithstanding this, a greater number of wards were examined than during any preceding year. The (old) wards which have had house to house examinations are:

2 (partly)*.....	16
3 (partly)*.....	17
7.....	18
8.....	20
9.....	21
10.....	22
15 (partly)*.....	23

As a result, the General Assessment Account has been increased in the sum of \$70,801.90. (See Table XI.)

ASSESSOR'S DIVISION.

Contracts were let for laying water service pipes in 50 streets, as compared with 37 streets for the previous year.

Estimates for laying service pipes in 170 streets have been prepared and returned to the Board of Local Improvements, as compared with 112 streets for the year 1900.

During the year seven plat books of 140 pages each were added to the 66 plat books completed up to the beginning of the year.

* Completing the unfinished examinations of the preceding year.

COLLECTION DIVISION.

Preparatory to arranging the accounts under assessed rates in conformity with the redistribution of the City by wards and collection districts, a new set of ward ledgers has been procured, and much of the work preliminary to making bills for the period May to November, 1902, has been entered therein.

The net collections for the year 1901 amounted to \$3,397,928.87, as compared with \$3,248,411.36 for the year 1900, making a net increase of \$149,517.51.

METER DIVISION.

There are in service 6,728 water meters, of which number 332 were installed during the year.

There have been repaired during the year 2,729 meters.

The net collections for this division of the bureau were \$1,197,405.06, as compared with \$1,143,533.15 for 1900, being an increase of \$53,871.91.

There have been investigated about 2,000 complaints growing out of apparently excessive meter bills. Fully 90 per cent of these complaints were found to be the result of leakage.

SHUT-OFF DIVISION.

The work in the Shut-Off Division was, during the early part of the year, divided, the leak and waste feature being transferred to the Bureau of Engineering.

The ordinance requiring the water to be shut off where there are buffalo or shut-off boxes, thirty days prior to the close of the collection period, has been religiously lived up to, so that in every premises in the City where there is a shut-off box in good order, and where the taxes had not been paid within the period, the water has been shut off.

GENERAL.

While the revenue of the bureau has been increased during the year in the amount of \$149,517.51, the expenses of collection have been decreased in the sum of \$11,466.00. (See table XXVII, and note particularly, please, the per cent of expenses to collections, viz., $7\frac{5}{16}$, as compared with $8\frac{1}{16}$ for the year 1900.)

Before closing, permit me again to call your attention to the question of waste. During March of the current year City Engineer Ericson caused to be made a careful statement of the actual amount of water pumped and

used for business and domestic purposes, which table shows conclusively and irrefutably that 75 per cent of the total pumpage goes to waste.

In my report for the year 1900, I called the Commissioner's attention to the fact that electrolysis was rapidly destroying the water service pipes throughout the City. During the last year a number of plumbers have called my attention to services removed, where electrolysis had almost wholly destroyed the lead service pipes. Complaints of this character have occurred in the western division of the City, particularly in the neighborhood of Western avenue, Park avenue, and West Lake street. Officials in other cities are paying marked attention to this cause of leaks and waste, and in the city of St. Paul, I am informed, there is a suit pending against the electrical companies, in the sum of \$500,000, for damages to water mains and service pipes. Pardon me for suggesting that this question might be worthy of the Administration's consideration in connection with the granting of franchises to every character of corporation which uses electric force.

Permit me to reiterate that there is no better plan for checking waste of water than by causing the application of meters, and I trust before another year shall have elapsed suitable legislation will be obtained whereby the City may protect its interests in this direction.

In my report for 1899, and again for 1900, I recommended that a meter-testing plant be provided at the Water Works shops. May I ask you again that you give this your personal attention, and see that the recommendation is complied with, as I deem it important to the City's interests.

In my reports for the past two years I called the attention of the Commissioner to the fact that the bureau had been called upon by the Comptroller to pay into the general fund from the water fund an amount approximating \$12,000 for office rent. Permit me again to call your attention to the fact that those portions of the office occupied by the Assessor's, Permit, and Inspection Divisions are in a condition unfit for service. Repairs should be made, and I will thank you to secure an order of the Council directing the Comptroller to pay for such repairs out of the amount paid to the Comptroller for rent.

In conclusion, permit me, on behalf of the employees of the bureau, to thank you and request you to extend to his Honor the Mayor their appreciation of the consideration extended to all of us during the year just closed.

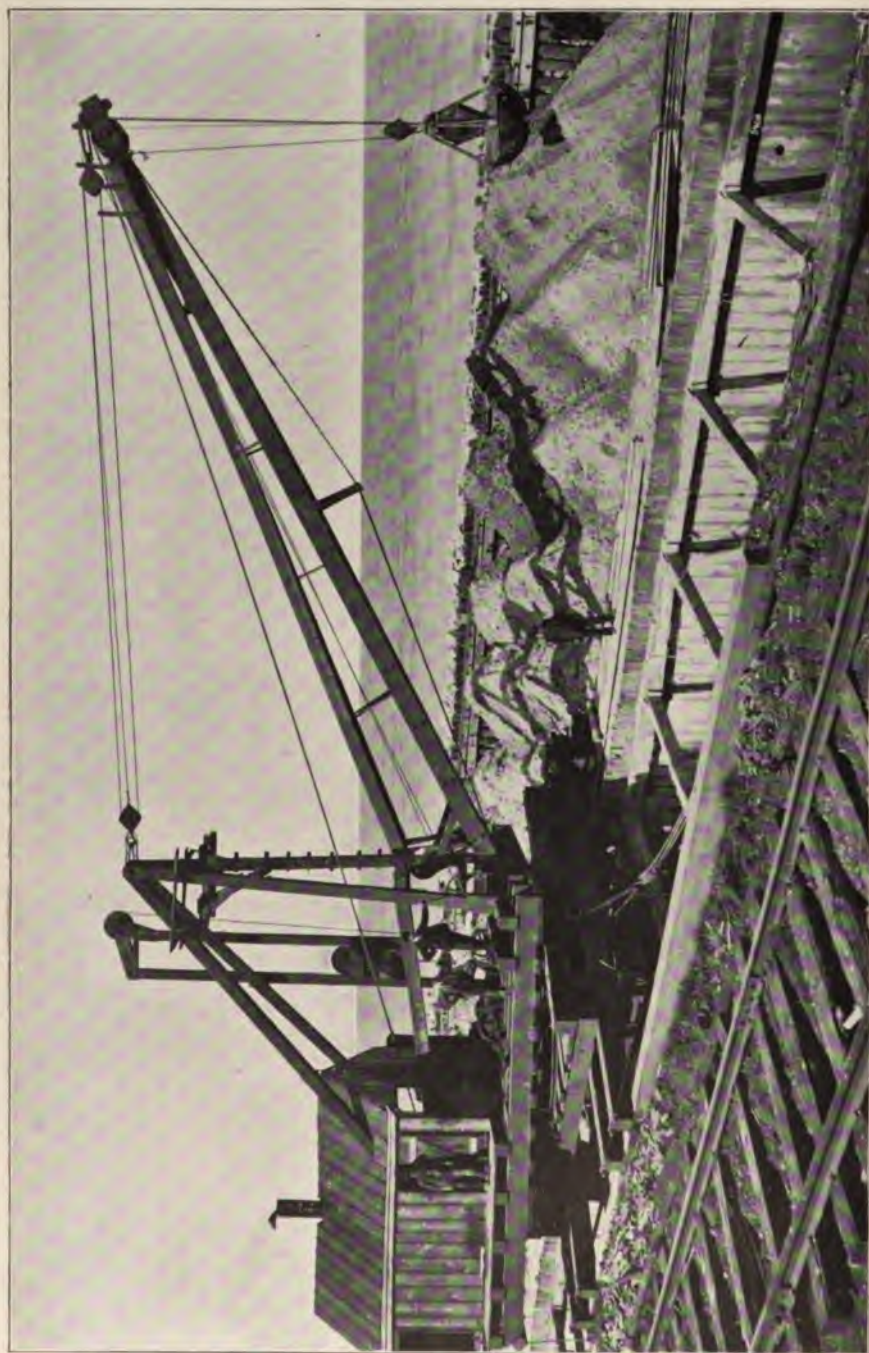
Respectfully submitted,

H. O. NOURSE,

Superintendent of Water.



THE
FURNITURE
L



INTERCEPTING SEWERS—SWINGING DERRICK WITH ORANGE-PEEL BUCKET, EAST OF I. C. R. R. TRACKS.

ANNUAL REPORT
Bureau of Sewers
CITY OF CHICAGO
1901

WM. E. QUINN
Superintendent

BUREAU OF SEWERS.

HON. F. W. BLOCKI,

Commissioner of Public Works.

DEAR SIR I have the honor to submit herewith the Annual Report of the Bureau of Sewers for the year ending December 31, 1901, being the Twenty-Sixth Annual Report of the Bureau under the Department of Public Works, and the Forty-sixth Annual Statement of the work done in connection with the sewers of the City.

During the year the Board of Local Improvements, as reorganized, took charge of the construction of sewers and house drains built by special assessment.

EXPENDITURES.

Sewer Fund.....	\$255,411.80
Intercepting Sewers (Water Fund).....	394,344.83
Fullerton Avenue Pumping Station (Water Fund).....	20,157.71
	\$669,914.34

Distributed as follows:

SEWER FUND.

Sewer Office, salaries.....	\$ 8,057.66
Sewer Office, expense.....	500.00
House Drain, salaries.....	32,123.96
House Drain, expense.....	596.89
Sixty-ninth Street Pumping Station, maintenance January, February and March.....	2,014.83
Sixty-ninth Street Pumping Station, installing new plant.....	7,392.49
Woodlawn Pumping Station, salaries.....	5,154.19
Woodlawn Pumping Station, maintenance.....	12,200.00
Seventleth Street Pumping Station, salaries.....	3,735.00
Seventleth Street Pumping Station, maintenance.....	3,432.00
Seventy third Street Pumping Station, salaries.....	3,782.50
Seventy-third Street Pumping Station, maintenance.....	2,953.13
Kensington Pumping Station, salaries.....	3,982.75
Kensington Pumping Station, maintenance.....	3,000.00
Pullman Pumping Station, salaries.....	2,449.59
Pullman Pumping Station, maintenance.....	3,899.94
Carried forward.....	\$91,704.91

DEPARTMENT OF PUBLIC WORKS.

Brought forward.....	\$94,704.94
Repairing sewers and catch basins, etc., and establishing bench monuments.....	55,965.24
Cleaning sewers and catch basins.....	91,001.54
Fifty-sixth Street sewer outfall.....	1,500.00
Operating air compressor, Rogers Park.....	8,368.83
Unpaid bill, P. Dickinson.....	58.92
Purchase of Austin atlases.....	280.00
Work on atlases.....	2,000.85
Dredging slip "A".....	1,939.56
Restoration of streets.....	2,406.51
Miscellaneous work for departments and public.....	2,030.81
Atchison, Topeka & Santa Fe Railway for use of dump.....	156.10
Total Sewer Fund.....	\$255,411.80

WATER FUND.

Fullerton Avenue Pumping Station, salaries.....	\$ 9,904.69
Fullerton Avenue Pumping Station, maintenance.....	10,253.02

INTERCEPTING SEWERS.

Lawrence Avenue Pumping Station.....	\$ 600.00
Construction of Thirty-ninth Street Conduit, Section "C".....	111,782.23
Construction of Section "L" of "C," Thirty-ninth Street Conduit.....	365.75
Construction of Section "G".....	163,926.68
Construction of Section "G3".....	68,040.66
Construction of Section "M".....	8,636.11
Maintenance Thirty-ninth Street Pumping Station, Section "S"-"A"....	600.00
Reconstruction Outfall Twenty-second street.....	5,332.07
Section "4" Farwell avenue and North Shore avenue.....	237.66
Retained on Cogan & Pound.....	32.00
Restoration of Thirty-ninth street.....	26,492.91
Office expense.....	8,298.77
Total Water Fund.....	\$414,502.54
Grand total.....	\$669,914.34

THE FOLLOWING STATEMENT SHOWS THE AMOUNT EXPENDED PER MILE PER YEAR FOR THE PAST FIFTEEN YEARS, IN CLEANING SEWERS AND CATCH BASINS.

YEAR.	Miles of Sewer to Maintain.	Cost of Cleaning Sewers and Catch Basins.	Cost per Mile of Cleaning Sewers and Catch Basins per Year.
1887	474	\$ 50,264.65	\$106.04
1888	492	52,423.41	106.55
1889	712	61,503.01	86.38
1890	785	107,873.34	137.42
1891	888	121,620.44	136.21
1892	992	142,720.52	143.87
1893	1,145	132,633.51	115.84
1894	1,211	154,225.45	127.35
1895	1,248	134,424.44	107.71
1896	1,306	96,901.65	74.20
1897	1,345	91,414.89	67.96
1898	1,388	92,961.88	66.98
1899	1,424	72,439.07	50.92
1900	1,453	80,985.64	55.73
1901	1,475	94,369.87	63.98

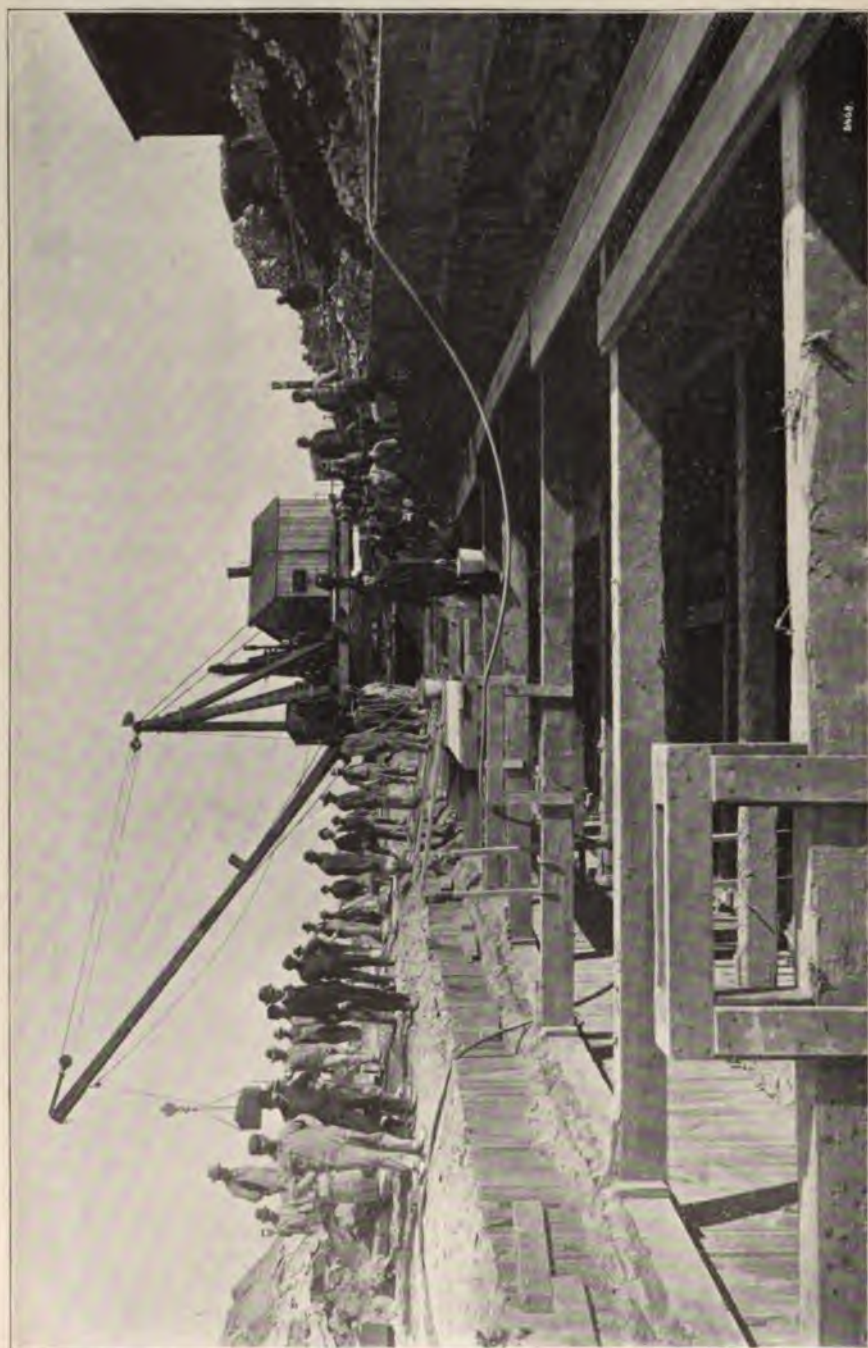
RECEIPTS OF HOUSE DRAIN DEPARTMENT FOR THE YEAR 1901.

DIVISION.	Issued Kitem- sion Permits.	Issued Regu- lar Permits.	Charges Acct. Same.	No. Permits not used.	Credit by Cancellation.	Actual Net Receipts.	Council Order Stamps.	Credit Acct. Imp. and Rep.	Credit Acct. Guaranteed Fund.	Credit Acct. Council Order Permits.	No. Relay Per- mits Issued.	Credit Acct. Relay Permits.	Spec'l Assess- ment Cost.	JUNCTION SEWER PIPES SET.				Credit Acct. Junction Orders.	
														6-inch.	9-inch.	12-inch.	18-inch.		
North	869	746	\$3,740.00	6	\$30.00	\$3,710.00	308	\$433.00	\$ 87.95	\$30.00					79	33	1	...	\$ 370.00
South.	1,612	1,317	6,845.00	12	60.00	6,825.00	141	142.00	56.80	5.00	11	\$11.00			297	54	3	1	822.50
West	2,392	1,328	6,640.00	17	85.00	6,555.00							1	\$1.00	70	50	4	...	455.00
Totals	4,873	3,389	\$16,965.00	35	\$175.00	\$16,790.00	449	\$775.00	\$144.75	\$85.00	11	\$11.00	1	\$1.00	346	137	8	1	\$1,647.50

HOUSE DRAIN INSPECTIONS.

Total receipts on regular house drain permits.....	\$16,790.00
Total receipts on Council order house drain permits	35.00
Total receipts on relay house drain permits.....	11.00
Total receipts on special assessment cost house drain permits	1.00
Total receipts on junctions house drain permits.....	1,647.50
Total receipts on miscellaneous, engineer and inspection account house drain permits.....	575.00
Total receipts on guaranteed fund house drain permits...	144.75
Total receipts on drain layers' licenses.....	1,730.00
Grand total receipts on all.....	\$30,954.25
Grand total number of inspections.....	9,218
Total number of sewer extensions and repairs.....	4,883
Total number of new drain connections.....	3,393
Total number of new Council order drains.....	449
Total number relays to new sewer mains.....	11
Total number of extra junctions set.....	502

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INTERCEPTING SEWERS—SWINGING DERRICK, WITH SKIPS, EAST OF I. C. R. R. TRACKS.

SEWAGE PUMPING STATIONS, 1901.

WM. DONLAN, Chief Mechanical Engineer.

KENSINGTON STATION.

The pumps in this station are in operation from four to ten hours per day. The district in which this plant takes care of the sewage comprises 1,360 acres, with a population of 8,760. Sewage pumped during the year, 447,000,000 gallons. Operating expenses during the year, \$6,682.75.

The only repairs to engines were renewing crosshead pin, crank-pin brasses and connecting rod on engine No. 1; the condenser was provided with a vacuum breaker to prevent the engine cylinders from flooding. Repairs necessary during the coming year: Engines Nos. 1 and 2 need lining up and overhauling of both boiler feed pumps. The interior of the building is in bad shape, needs painting and repairs to woodwork.

SEVENTIETH STREET STATION.

The pumps in this station are in operation from nine to fifteen hours per day. The district for which this station handles sewage comprises 1,440 acres, with a population of 11,020. Sewage pumped during the year, 2,104,000,000 gallons. Operating expense for the year, \$7,167.00.

During the year a few minor repairs were made to engines, the main steam-pipe header connecting all three boilers was remodeled to prevent condensation to engines. During the coming year boiler No. 2 will need a new set of flues, mud drum taken off and a 6-inch pipe put in its place. The pump shaft of both engines needs lining up; interior of engine and boiler room needs painting and calcimining; also the slate roof is leaking badly and will have to be repaired.

SEVENTY-THIRD STREET STATION.

The pumps in this station are in operation from four to ten hours per day. The district for which this plant handles the sewage comprises 1,260 acres, with a population of 11,230. Sewage pumped during the year, 1,448,000,000 gallons. Operating expenses for the year, \$6,655.63.

This station has been run very economically during the year. The only repairs made to engines and boilers were of a minor character incidental to their operation. The discharge pipes from pumps had settled

down below lake level, and when the pumps were not running the water from the lake would flow back into the well, necessitating extra pumping. An extension was put on the discharge pipes to prevent the water from flowing back. During the year the engine and boiler-room interior was painted and calcimined, which has improved the appearance of the station. During the coming year engine No. 1 needs lining up, and journal brasses refitted; it may also be necessary to put in new flues in all three boilers, as the flues are badly corroded and may give out at any time.

WOODLAWN STATION.

In this station one pump is in operation continuously, while at times it is necessary to run all four pumps. The district for which this plant pumps sewage comprises 560 acres, with a population of 24,375. Sewage pumped during the year, 2,817,000,000 gallons. Operating expenses, \$17,354.19.

During the year extensive repairs were made to this plant. All four engines were overhauled and put in good shape, new piston rings and keys, valves faced, stem turned up and bushed, journal rebabbitted on steam end, new rubber hoods, new valves, piston rods and sleeves repaired on water end, condensing pumps and both boiler feed pumps repaired. Since these repairs were made the pumps are giving better service. During the coming year it will be necessary to put in a new main steam pipe, as the one now in service is badly corroded and unsafe; also steam and water pipes leading to condensers and boiler feed pumps will have to be repaired.

FULLERTON AVENUE STATION.

This station flushes the north branch of the Chicago river by pumping from the lake through the Fullerton avenue conduit, which drives the sewage of this branch from Fullerton avenue into the main river at Lake street, from which point it is carried into the Drainage canal.

The engines in this station are of the Watt type, condensing, 20 x 30-inch two-cylinder marine, driving a shaft at each end of which was placed a four-bladed propeller wheel, the wheels being in line of their current with each other.

On December 19, 1900, a log, supposed to have been let loose from the inside of the intake screen, was drawn against these wheels, breaking one blade off the first wheel in its course and three blades off the second wheel. To balance the engine's running, the one blade left on the second wheel and the center blade of the three on the first wheel were cut off, and the engine started up January 26, 1901, and ran in this manner until March 19, 1901.

when it was shut down to put on a new wheel designed by the Allis-Chalmers Company of Milwaukee. This screw wheel is 8 feet in diameter, having four blades, which extend by each other so as to cover the whole area of the wheel's diameter, and having a pitch of 5 feet 6 inches.

By very careful tests taken with an electrical current meter, after getting the city's diver to measure the conduit at points of tests, it was ascertained that the pumpage of this wheel was 20,000,000 cubic feet per day, the engine making seventy-five revolutions per minute. Total water pumped during the year, 4,619,000,000 cubic feet. Operating expense, \$20,157.71. Only the usual repairs due to ordinary wear were made during the year.

PULLMAN STATION.

This station, located on the southwest corner of 109th place and the Illinois Central Railroad, was built by the Pullman Palace Car Company, and was turned over in running order and accepted by the city of Chicago, June 7, 1901.

The plant contains two tubular boilers 60-inches x 16 feet, 54 4-inch flues; two duplex boiler feed pumps, 6 x 4 x 6-inches; two 3,000,000 gallon Cope-Maxwell compound condensing pumping engines, 11½ x 21 x 24½ x 48-inches.

This plant is in operation from fifteen to twenty-one hours per day. The pumps take care of the sewage in the town of Pullman, which comprises 420 acres, with a population of 9,370. Sewage pumped during the year, from June 7 to December 31, 287,000,000 gallons. Operating expense, \$6,149.53.

The principal alterations and repairs made during the year were on the discharge pipe of the pumps, which has reduced the back pressure from fifteen to six pounds. During the year the interior of the engine and boiler-room will require repairing and painting; otherwise the station is in good condition.

SIXTY-NINTH STREET STATION.

This plant, which has been in operation for the past twelve years, was shut down April 1, 1901, owing to location and incapacity to handle the sewage in that district, and used as an auxiliary to the new electric motor pump.

The work on the new electric motor pump was completed and the pump put in operation April 1, 1901. This motor and pump are located in the underground chamber at the intersection of 69th and Halsted streets. The pump is submerged in a well 30 feet below grade, having

a vertical shaft 14 feet long connected to the motor with bevel gearing in a chamber directly above the pump. The pump is designed to have a capacity of 9,000 gallons per minute, 12-foot lift, 18-inch discharge; driven by an 85-horse-power motor.

The district for which this pump handles the sewage comprises 1,860 acres, with a population of 9,740. Sewage pumped during the year, 762,500,000 gallons. Operating expenses under old system, \$2,014.82; cost of installing and operating new system, \$7,382.49. As this pump has a sufficient capacity to take care of the sewage, it is only necessary to run it at intervals of from five to twelve hours per day.

During the year considerable trouble has been experienced in keeping the field coils and armature of the motor from grounding and short circuiting, due to moisture and lack of proper ventilation, the chamber in which the motor is located being too small to receive proper attention. During the coming year it will be necessary to enlarge the motor chamber so that the attendants can work around the motor in safety. An electric fan is necessary to properly ventilate the pit to prevent dampness from affecting the operation of the motor. Feed wires will be strung from the generator at the Sixty-fourth street electric light plant to operate the motor at this plant.

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INTERCEPTING SEWERS—BRICKLAYING IN 16-FOOT SEWER, EAST OF I. C. R. R. TRACKS.

SEWERS CONSTRUCTED BY PRIVATE CONTRACT DURING THE YEAR 1901.

No. of Permit	STREET	FROM	TO	Diam. in Feet.	Length.	NAME OF CONTRACTOR.
1028	Berwyn avenue.....	Oakley avenue.....	Leavitt.....	1	624	M. J. Healy.
1046	Bowmanville road.....	Oakley avenue.....	Leavitt.....	1	575	W. F. Healy.
1044	Costello avenue.....	Hamlin avenue.....	300 feet east.....	1	342	M. J. Healy.
1035	Cullom avenue.....	Forty fourth avenue.....	140 feet east.....	1	145	Metropolitan Contracting Co.
1034	W. Erie.....	N. Fiftheth avenue.....	N. Fifty first avenue.....	1	675	M. J. Healy.
1028	Errigut avenue.....	Oakley avenue.....	300 feet east of Leavitt.....	1	950	M. J. Healy.
1045	Forty first court.....	Park avenue.....	225 ft. S. of end of old sewer.....	1	237	McNichols & Co.
1048	Forty eighth court.....	Fulton.....	Park avenue.....	1	434	McNichols & Co.
1040	Green.....	W. Sixty fifth.....	W. Sixty sixth.....	1	602	Nash Bros.
1047	Harding avenue.....	School.....	3.5 feet north.....	1	365	James H. Roche.
1034	W. Huron.....	N. Fiftheth avenue.....	N. Fifty first avenue.....	1	675	M. J. Healy.
1028	Leavitt.....	Foster avenue.....	Berwyn avenue.....	1	606	M. J. Healy.
1037	Newport avenue.....	Berwyn avenue.....	alley S. of Bowmanville Rd.....	1	304	W. F. Healy.
1037	Palfox court.....	Racine avenue.....	Herdon avenue.....	1 1/4	630	M. J. Healy.
1029	Palfox court.....	Herdon avenue.....	Southport avenue.....	1	506	M. J. Healy.
1046	Palfox court.....	Berwyn avenue.....	300 feet north.....	1	328	M. J. Healy.
1040	Peoria.....	300 ft. N. of Berwyn ave.....	Foxmanville road.....	1	119	W. F. Healy.
1029	Ridgeway avenue.....	W. Sixty fifth.....	W. Sixty sixth.....	1	662	Nash Bros.
1039	Robbins (Asbury) terrace.....	Wabasha avenue.....	460 feet north.....	1	487	James H. Roche.
1040	Saugamon.....	Clarendon avenue.....	Lake Michigan.....	1	605	Nash Bros.
1047	School.....	W. Sixty fifth.....	W. Sixty sixth.....	1	602	Nash Bros.
10 8	Thomas.....	Milwaukee avenue.....	Harding avenue.....	1 1/4	225	James H. Roche.
1038	Thomas.....	N. Forty eighth avenue.....	N. Forty ninth avenue.....	1 3/4	669	Nash Bros.
1043	Webster avenue.....	N. Forty ninth avenue.....	Hospital.....	1	192	Nash Bros.
1041	N. Central Park avenue.....	Elston avenue.....	C. & N. W. Ry.....	1 1/4	519	Andrew Maloney.
		N. Br. Chicago River.....	Berwyn avenue.....	1	1555	Nelson Bros.



INTERCEPTING SEWERS—BRICKLAYING IN 16-FOOT SEWER, EAST OF I. C. R. R. TRACKS.

SEWERS CONSTRUCTED BY PRIVATE CONTRACT DURING THE YEAR 1901.

No. of Permit.	STREET	FROM	TO	Diam. in Feet.	Length.	NAME OF CONTRACTOR.
1028	Berwyn avenue.....	Oakley avenue.....	Leavitt.....	1	624	M. J. Healy.
1046	Bowmanville road.....	Oakley avenue.....	Leavitt.....	1	575	W. F. Healy.
1044	Costello avenue.....	Humlin avenue.....	300 feet east.....	1	342	M. J. Healy.
1035	Cullom avenue.....	Forty fourth avenue.....	140 feet east.....	1	145	Metropolitan Contracting Co.
1034	W. Erie.....	N. Fifteenth avenue.....	N. Fifty-first avenue.....	1	675	M. J. Healy.
1028	Farragut avenue.....	Oakley avenue.....	300 feet east of Leavitt.....	1	950	M. J. Healy.
1045	Fifty first court.....	Park avenue.....	257 ft. S. of end of old sewer.	1	237	McNichols & Co.
1018	Forty-eighth court.....	Fulton.....	Park avenue.....	1	434	McNichols & Co.
1040	Green.....	W. Sixty-fifth.....	W. Sixty-sixth.....	1	662	Nash Bros.
1047	Harding avenue.....	School.....	325 feet north.....	1	365	James H. Roche.
1024	W. Huron.....	N. Fifteenth avenue.....	N. Fifty-first avenue.....	1	675	M. J. Healy.
1028	Leavitt.....	Foster avenue.....	Berwyn avenue.....	1	666	M. J. Healy.
1046	Leavitt.....	Berwyn avenue.....	alloy S. of Bowmanville Rd.	1	364	W. F. Healy.
1031	Newport avenue.....	Racine avenue.....	Herndon avenue.....	1 1/4	630	M. J. Healy.
1037	Newport avenue.....	Herndon avenue.....	Southport avenue.....	1	506	M. J. Healy.
1029	Palfox court.....	Berwyn avenue.....	300 feet north.....	1	326	M. J. Healy.
1046	Palfox court.....	300 ft. N. of Berwyn ave.	Bowmanville road.....	1	119	W. F. Healy.
1040	Peoria.....	W. Sixty-fifth.....	W. Sixty-sixth.....	1	662	Nash Bros.
1029	Ridgeway avenue.....	Wabansia avenue.....	460 feet north.....	1	487	James H. Roche.
1039	Robbins (Ashbury) terrace.....	Clarendon avenue.....	Lake Michigan.....	1	665	Nash Bros.
1040	Sanganon.....	W. Sixty-fifth.....	W. Sixty-sixth.....	1	662	Nash Bros.
1047	School.....	Milwaukee avenue.....	Harding avenue.....	1 1/4	225	James H. Roche.
1048	Thomas.....	N. Forty-eighth avenue.....	N. Forty-ninth avenue.....	1 1/4	666	Nash Bros.
1038	Thomas.....	N. Forty-ninth avenue.....	Hospital.....	1	192	Nash Bros.
1043	Webster avenue.....	Eaton avenue.....	C. & N. W. Ry.....	1 1/4	540	Andrew Maloney.
1041	N. Central Park avenue.....	N. Br. Chicago River.....	Berwyn avenue.....	1	1,555	Nelson Bros.

**NEW SEWERS AND CATCH-BASINS BUILT DURING THE YEAR 1901
AND THE COST OF SAME.**

Length.	DIAMETER, IN FEET.	Cost.
1,390	$\frac{3}{4}$	\$ 1,059.10
55,021	1	75,921.97
*3,158	1	9,877.92
*1,328	$1\frac{1}{4}$	
23,878	$1\frac{1}{4}$	34,802.61
125	$1\frac{1}{2}$	266.25
8,363	2 (Single ring)	20,516.42
5,350	2 (Double Invert).....	15,083.79
2,940	2 (Double ring).....	10,576.00
7,653	$2\frac{1}{2}$ (Double invert).....	19,224.22
1,820	$2\frac{1}{2}$ (Double ring).....	5,280.00
* 145	8	5,393.50
* 144	$14\frac{1}{4}$	6,192.00
*3,217	16	139,321.00
* 905	20	110,758.75
117,546		\$454,273.53

* Intercepting Sewers.

**TOTAL COST OF THE CONSTRUCTION OF SEWERS AND CATCH BASINS
AND MAINTAINING SAME, SINCE THE ESTABLISHMENT OF THE
SEWERAGE SYSTEM IN 1855 TO JANUARY 1, 1902.**

Year.	Linear feet of Sewers Built.	No. of Catch Basins Built.	No. of Man- holes Built.	No. of House Drains Put in.	Cost of Clean- ing Sewers and Catch-Basins.	Street Inter- sections and Repairs of Sewers.	Cost of Construction.
Previous to 1861	283,586	1,174	2,102	2,194	\$ 5,619.48	None found on reports.	\$ 65,188.46
1861	2,826	18	33	243	1,715.60	\$ 2,951.76	3,678.81
1862	15,676	72	66	365	4,897.24	3,024.07	57,036.42
1863	39,605	192	204	536	5,065.40	2,058.11	169,577.38
1864	25,021	189	183	512	3,417.81	4,597.63	87,221.48
1865	29,348	223	168	1,288	13,818.07	7,493.56	137,643.02
1866	48,127	327	271	3,732	28,445.16	773.65	225,564.53
1867	89,681	418	555	5,703	26,540.81	9,581.42	416,730.51
1868	47,841	480	293	3,261	26,354.06	11,287.08	197,152.92
1869	139,765	771	928	3,979	26,015.68	7,577.16	651,141.26
1870	78,166	626	468	5,187	21,464.30	10,354.74	258,664.70
1871	50,716	277	357	3,093	17,415.46	12,577.72	153,295.36
1872	47,842	245	341	1,435	21,484.16	16,975.40	173,255.76
1873	116,702	897	1,015	4,391	31,229.27	29,781.97	450,222.90
1874	222,322	1,054	1,471	6,292	36,884.57	21,606.72	587,567.38
1875	120,971	958	789	3,365	32,008.23	28,107.40	342,932.89
1876	15,248	155	75	1,172	29,545.41	19,803.29	79,545.28
1877	64,666	363	431	1,822	35,763.33	16,959.44	291,829.63
1878	88,031	492	604	1,514	25,704.37	19,259.49	37,264.97
1879	145,381	820	1,043	2,953	29,286.67	10,619.69	130,840.50
1880	79,128	271	554	4,196	55,561.48	25,681.11	92,544.08
1881	132,076	548	917	4,810	34,512.15	50,967.89	452,310.06
1882	98,515	792	725	5,677	33,969.35	26,618.05	224,450.16
1883	75,364	835	497	5,963	31,749.74	25,140.81	231,084.23
1884	101,547	751	651	6,957	13,678.03	37,893.29	258,020.91
1885	118,647	796	854	6,325	46,332.18	45,303.02	263,188.03
1886	133,193	734	743	7,441	51,119.46	50,707.64	177,047.24
1887	90,584	756	605	8,100	50,264.65	49,789.60	196,496.98
1888	104,903	816	674	8,152	52,122.41	53,782.67	228,567.57
1889	171,023	1,351	1,190	4,303	61,503.01	61,459.25	350,234.54
Amended District prior to 1890	993,573	6,102	8,620		Estimated cost of construction of the sewerage system		2,614,224.75
1890	379,203	2,983	2,604	9,279	107,873.31	83,383.68	826,718.67
1891	546,918	3,979	3,736	11,312	123,620.44	95,966.75	1,532,360.44
1892	549,258	3,866	3,714	12,592	142,720.52	79,747.83	1,390,017.99
Amended District prior to 1901	96,697	326	231		Estimated cost of construction of the sewerage system		172,816.30
1893	708,176	4,811	4,825	14,198	132,633.51	114,702.78	1,006,720.69
1894	350,944	2,597	2,259	8,928	151,225.45	130,719.03	1,014,489.86
1895	196,349	1,515	1,409	1,621	134,424.44	93,713.66	856,950.01
1896	303,172	2,201	1,990	6,161	96,901.65	91,353.54	721,869.88
1897	206,450	1,812	1,550	8,241	91,414.89	90,651.29	416,249.53
1898	256,618	1,812	1,016	2,635	92,961.88	100,986.06	682,229.10
1899	191,790	1,466	1,384	2,647	72,439.07	84,004.37	793,623.28
Part of town of Chicago annexed prior to 1900	154,895	905	1,075		Estimated cost of construction of the sewerage system		475,763.36
1900	155,866	1,391	1,176	4,750	80,985.61	102,977.89	475,763.36
1901	117,546	809	906	5,598	94,349.87	55,265.24	454,273.53

Totals.....\$7,982,966.54 \$51,389 \$561,872 20,022 \$2,188,030.24 \$1,190,603.45 \$2,653,660.01

* Of this amount 48,356 feet have been taken up and replaced by sewers of larger size, leaving in place January 1, 1902, 7,035,430 linear feet or 1,0232 miles. Of this amount 25.675 miles are of brick construction and 949.14 miles are of vitrified tile pipe.

† Of this number 348 manholes have been abandoned, leaving in place, January 1, 1902, 55,984.

DIVISION OF STANDARD BENCH MONUMENTS, BENCH MARKS AND STREET GRADES.

W. H. HEDGES, Bench and Street Grade Engineer.

STANDARD BENCH MONUMENTS.

During the year ending December 31, 1901, no new concrete bench monuments were built, as there were already enough for the running of the exact levels to determine the elevation of those already built. We now have elevations determined by the Bench Engineer's exact levels on eighty-two (82) concrete standard bench monuments, and those elevations have been officially established at different times by the necessary ordinances in the City Council.

These monuments provide for the territory from Twenty-second street north to Bryn Mawr avenue, and from Lake Michigan west to North Fifty-sixth avenue, together with a strip of territory about two miles wide along the lake shore from Twenty-second street south to Seventy-ninth street, embracing altogether a territory of over eighty square miles, or nearly one-half the City territory. The location of these monuments, averaging about one mile apart each way, is shown on the map accompanying this report by small black squares surrounded by a ring. The figures showing the number given each monument, and the elevation of the bench point thereof, are shown on the map close to each circle. The bench point referred to, is the top of the hardened copper rod showing in the surface of the concrete under the iron cover. The construction of the standard bench monuments is shown on the plan and vertical sections submitted with this report. They are built of best granite concrete. The bottom of the concrete is $6\frac{1}{2}$ feet below the surface of the ground and is there $3\frac{1}{2}$ feet square. The top of the concrete is 16 inches square, and comes within 6 inches of surface of ground. An iron cover with a movable lid brings the top of the monument level with the surface of the ground.

They are called Standard Bench Monuments to distinguish them from the old points on certain buildings that were established by the Council about the year 1888 as "Standard Bench Marks," when the first effort was made to remedy the evils resulting from conflicting references to City datum. The form of construction of these bench monuments and their depth in the ground prevent their being affected by the frost, and there is not sufficient weight to cause settlement, so that once carefully and accurately established they will be just as accurate 100 years from now as they are at present and constitute an unchangeable reference to City datum.



INTERCEPTING SEWERS—PILE DRIVER AND SWINGING DERRICK, CORNELL AVENUE.

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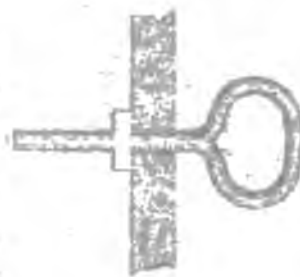
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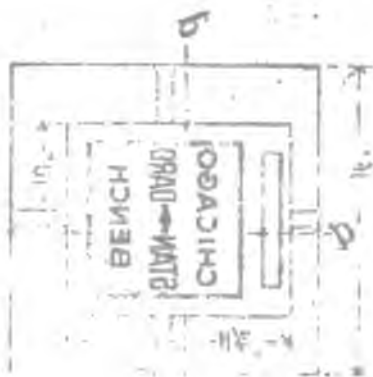
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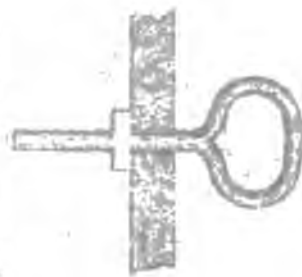
PLANO COVER



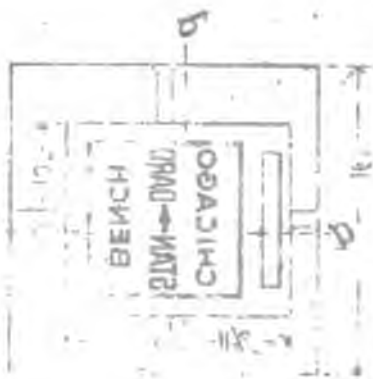
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PLANO COVER



The success attending the running of the exact levels in this work is most satisfactory, and all the results come well within the limits established for the more expensive system of precise levels. The figures given by the Bench Engineer have, from the beginning, been adopted and used by all the engineers and surveyors in the City, and the fullest opportunity has been afforded them for examination, comparison and criticism without any question having ever been raised as to the accuracy of the results obtained. Wherever any improvement is undertaken in the City which refers to or connects with City datum, that improvement is absolutely dependent for accuracy on having exactly correct bench marks from which to start the work, and which are located in or near the territory containing the improvement. This especially applies in the matter of establishing and maintaining street grades. At present any new street grades called for, outside of the territory covered by the new system of exact levels and bench marks, have to be determined from old unreliable bench marks that do not correctly refer to or connect with City datum, resulting in serious disagreements and loss of time and money both for the City and for private property owners. It is therefore important that the standard bench monuments should be extended, as rapidly as possible, into those sections of the City not yet provided for, viz.: into Hyde Park south of Seventy-ninth street and into the towns of Lake and Calumet. We now have about one-half the City provided for, and it will require about three years more to complete the establishing of these monuments over all the City.

BENCH MARKS.

The points from which surveyors and engineers start their levels are by them called "benches," or "bench marks," and are generally placed on some available point on a building, hydrant or curbstone, but they are very liable to change in time, and can only be safely used when there is some exact and permanent standard to refer to in cases of doubt or disagreement. In running the lines of exact levels to determine the elevations of the eighty-two concrete standard bench monuments, we have at the same time established nine hundred and thirty-five (935) of the ordinary kind of bench marks along these lines of levels, choosing the best points available for that purpose, viz.: on stone or iron doorsteps, water tables of buildings, corners of stone or cement curbs, roots of trees, tops of hydrants, etc. These ordinary benches are not reported to the City Council for confirmation and are in no way official in their character, but are simply recorded in the City bench books for the convenience of the engineers employed by the City and of any City surveyors who may wish to copy and make use of them. In any case of importance or of disagreement between

two or more of such bench marks, reference must be had to the nearest standard monument to correct any such disagreement. In no case should any of these ordinary bench marks be used without comparing it with some other bench mark, either in beginning or closing a line of levels.

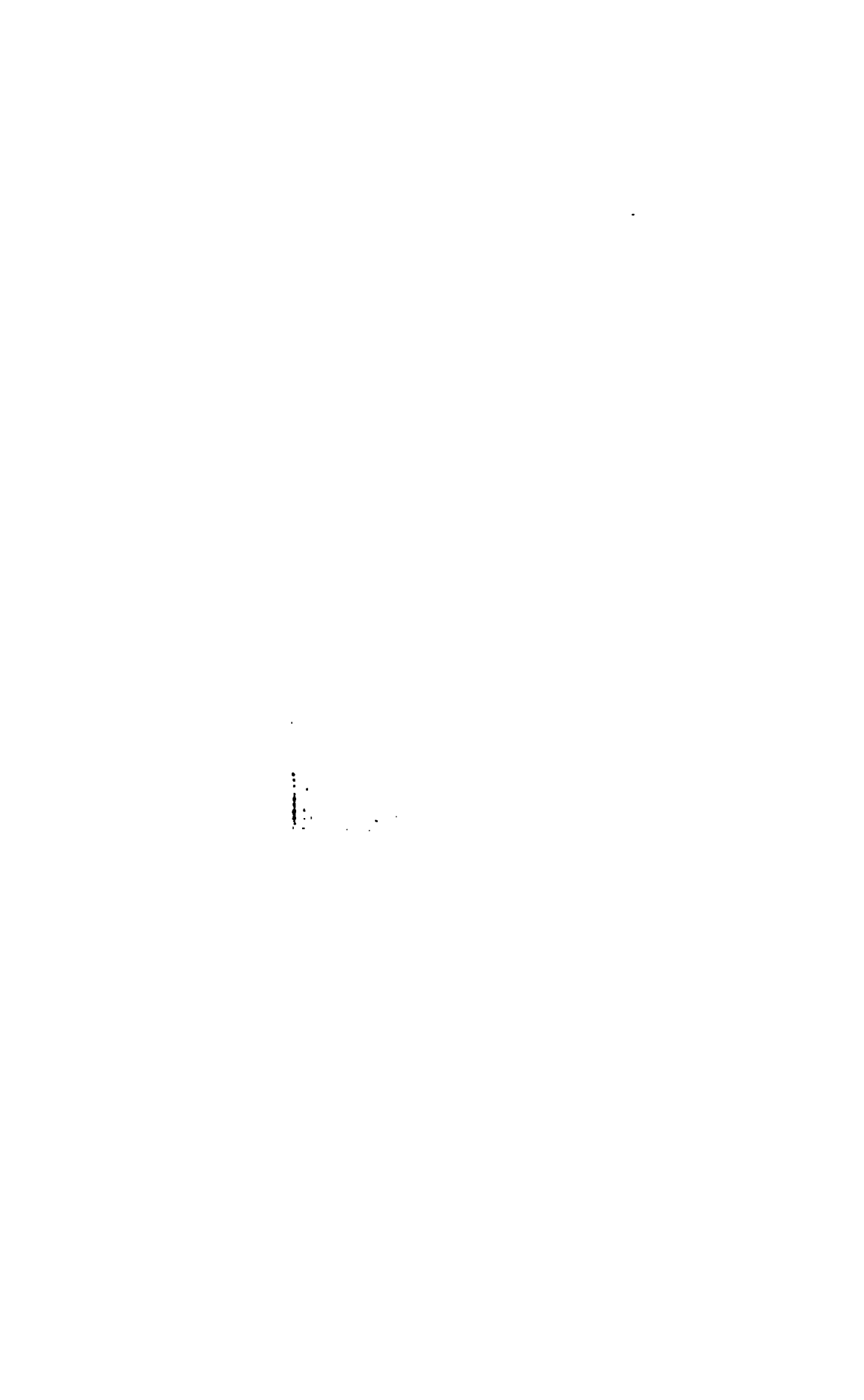
Before the present connected system of exact levels was begun the bench marks in use were established by different engineers at different times and starting from different points with no safe standard for correction, and the result was most confusing and unreliable.

STREET GRADES.

During the year ending December 31st, 1901, this Division of the Bureau of Sewers, has prepared and sent in to the City Council for confirmation, 1,417 street grades that have been passed by the Council and carefully recorded in the grade books and maps of this Bureau. Work on the new street grade books has now progressed to a point where they are beginning to show their great value, and by February 1, 1902, it will be possible from these books to begin making up and issuing printed sheets of street grades, a section (or 1 square mile) in each sheet, that will show at a glance, the latest established grade at any point in the section. Such sheets will be most useful to the different City departments, and to the public at large, through the local surveyors and engineers, who have to determine on the ground, questions connected with City datum and street grades. When a sheet is prepared, two or three hundred copies should be struck off, and distributed as called for. The amount of work in connection with the establishing of new grades, and the correction of old grades, is very great. It can only begin to advantage, within the territory covered by the new exact levels. All the old street grades, and the improvements connected therewith, were based on levels run from the old inaccurate bench marks, and of course these improvements, made in accordance with those levels, do not properly connect with City datum. When the new exact level bench marks are established, it will be necessary to go over the whole City, and from those bench marks establish new grades that will conform to the improvement already made, and that will have a correct reference to City datum. Then whatever new improvements are afterwards carried out, they will meet and agree with those already done. It will take some time yet to remedy the neglect of so many years, in a matter of so much importance to the property interests of the City, but the work in that direction is now well advanced, and it is hoped will be carried to its completion.



INTERCEPTING SEWERS—POTTER TRENCH MACHINE, CORNELL AVENUE AT 53D STREET.



DIVISION OF INTERCEPTING SEWERS.

WILLIAM S. MACHARG, Consulting Engineer.

As during the previous year, the work in this Division of the Bureau of Sewers has been much delayed during the year ending December 31, 1901. The reason for delay is principally a continuation of the difficulties which beset contractors in the former year.

SECTION B, RECONSTRUCTION OUTFALL, TWENTY-FIRST STREET SEWER.

The reconstruction of this outfall, which was originally built for a length of 109 feet on private property, was completed in July. The work was done by Michael P. Byrne, and the sewer is properly located in Todd street.

SECTION C, THIRTY-NINTH STREET CONDUIT.

The contract for this work, the unfinished part of a 20-foot brick tunnel in Thirty ninth street, which was awarded to John P. Agnew, was not perfected by furnishing a bond which was acceptable to the Commissioner of Public Works until January 23, 1901.

Mr. Agnew proceeded immediately thereafter to obtain the necessary land and machinery and broke ground for the shaft, air-lock section and the construction of the shield on or about April 8, 1901. The rate of progress in installing the shield and machinery was slow and the shield was first advanced in the construction of the tunnel on September 30, 1901. The work continued regularly to October 10th, when the shield was pushed against a boulder in the bottom and the cutting edge was buckled. Repairs were completed October 24th and the shield again advanced for one day, when a similar accident occurred, requiring till November 8th for repairs. From this date the shield was worked successfully.

The total length of conduit built under this contract is 205 feet, of which 162 feet was built in open cut for the installation of shaft, tracks, air-lock and shield. The excavation on December 31st is 84 feet in advance of the masonry.

The shield built by Mr. Agnew for the work from the Butler street shaft is 24 feet 10 inches outside diameter and 12 feet long, of steel plate 1-inch thick in the body of the shield and $\frac{1}{2}$ inch thick in the tail piece, with a framing of 12-inch \times 1" beams and channels dividing the interior into sixteen pockets with plate platforms and partitions. It is operated by thirty hydraulic jacks of 5 inch effective diameter and with hydraulic

pumps capable of delivering water at a pressure of 6,000 pounds per square inch. The rating of each jack is 60 tons, but only about one-third of this capacity is used. The City refused approval to the structural design of this shield.

The system of construction is similar to that previously used by the Chicago Star Construction Company in the same work. A segmental framing of oak timber 8 inches thick on the diameter of the tunnel is built in the tail-piece of the shield and the shield is then pushed ahead and the process repeated. The wooden tubing is afterward lined with five rings of brick consisting of four rowlock and one flat ring. A great improvement on the previous method has been made, however, by fitting the piston of each jack with a cast iron shoe with a ball and socket joint so that the pressure of the jacks is distributed in a practically direct and uniform manner over nearly the whole vertical face of the wood tubing.

The whole advance of the shield, September 30th to December 31st, inclusive, was 812.45 feet. The average progress, therefore, for the whole time, ninety-three days, is 8.74 feet per day of twenty-four hours.

SECTION L, THIRTY-NINTH STREET CONDUIT.

This short section, 476 feet in length, in extension of the original plan for the conduit on Thirty-ninth street, is necessary owing to the change in location of the pumping station for this district from Lake avenue at Thirty-ninth street to the land east of the breakwater of the Illinois Central railroad on the line of Thirty-ninth street produced. It is to be built on this line from the east line of Lake avenue to a point near the breakwater, where the pump wells and gravity channels of the station will connect with it.

The contract for this section was awarded to John P. Agnew, who also has the contract for building Section C, at a price of \$195.00 per lineal foot, and the contract was signed July 17, 1901.

On this work the contractor has seriously delayed progress. It is his intention to build the eastern portion of Section C, on Thirty-ninth street between Lake avenue and Vincennes avenue, through the shaft located for section L near the Illinois Central breakwater. This is manifestly much to his advantage as he will save the cost of installation of a plant on the eastern part of Section C, and the location of his plant on the Illinois Central railroad greatly lessens the cost of delivery of material and disposal of excavated earth.

The delay of the contractor, which was seemingly willful, finally resulted in a request by the Commissioner of Public Works to the City Council on November 11, 1901, that he be authorized to declare the contract for Sections C and L forfeited, or that action be taken to compel the

completion of the work within the contract time. This request was referred to the Committee on Finance, and is in the hands of the Committee at the present time.

SECTION D, LAWRENCE AVENUE CONDUIT.

On this section the delay of the previous year, arising from difficulties in making the excavating machinery operative, continued and resulted finally in the financial embarrassment of the contractors. Efforts were made to secure the continuation of the work under the control of the contractors but without success and in June the work passed into the hands of a trustee for the parties interested in the contract. The trustee commenced operations about June 15th and carried on the work in slow and unsatisfactory manner till September 23d, building about 150 feet of the tunnel. On that date the Commissioner of Public Works served all parties concerned with a notice to proceed with the work within five days satisfactorily to him under pain of forfeiture of the contract and at the same time communicated his action to the City Council with the request that it concur and authorize re-advertisement of the work.

On October 21st the City Council passed an ordinance declaring the contractors in default and directing the Commissioner of Public Works to advertise for bids for the completion of the work and to transmit the bids to the Council. The bids received were transmitted by the Commissioner as ordered on November 18th, with the recommendation that for the advantage of the City it would be well to do the work of completion of the contract by day labor.

On December 16th the Council passed an ordinance authorizing the completion of the work directly, that is, by day labor instead of by contract, and steps were at once taken by the Commissioner of Public Works to carry out this order. At a Council meeting of December 23d the City Clerk presented a notice of intention by Joseph Hanreddy to file a bill of complaint asking an order of court to restrain the City from doing this work by day labor. This bill was filed and the matter is now in court.

SECTION G, INTERCEPTING SEWER SOUTH OF THIRTY-NINTH STREET.

On January 3, 1900, the City Council passed an ordinance authorizing the construction of sections G and H of the intercepting sewer system by day labor. This ordinance was passed in response to a communication to the Council by Mayor Harrison, in which it was set forth that in most of the large contracts which had been entered into by the City for the construction of heavy underground work for a period of several years, the contractors

had set up claims for extra compensation amounting to from 100 to 280 per cent in addition to the original contract price, and had succeeded in obtaining these additions by litigation in case they were not otherwise allowed. At the time of this communication the contractors on Section C, intercepting sewers, were asking for a large increase in their contract price for alleged change in the structure.

Proposals had been taken for the construction of these sections by contract and these figures, together with estimates made by the department of the cost by day labor, were submitted with the communication of the Mayor. The estimates showed that the cost of construction by day labor would be about equal to the sum of the amount of the lowest bid and the cost of engineering expenses on contract work.

Work was not commenced on these sections during the year 1900 because of delays on Section C, to which this work is tributary, and it was not deemed advisable to expend this large amount of money a year before it would become useful.

On or about April 1, 1901, work was commenced on Section G, on the lake shore in the Illinois Central right of way, at the line of Thirty-ninth street produced, and just south of the location of the Thirty-ninth street conduit. Proposals were received for machinery to be used on construction but the prices bid were very high and the City proceeded to build one pile-driver and three swinging derricks which was done at a saving of over \$5,000 on the four machines as compared with the proposals.

The work on this section east of the Illinois Central railway tracks and about 50 feet inside the line of their breakwater is heavy, the bottom of the excavation being 21 feet below lake level and the cutting being 24.5 feet below the surface of the ground. About 10 feet depth in the bottom is stiff clay, and above this, sand, which, of course, is full of water. Wakefield sheeting built of three 2-inch plank is used, driven to sure footing in the clay, and is left in place after the completion of the work, partly because of difficulty in drawing and partly because it affords protection to the work from the lake.

The original organization of the working force on this section was slow, because the conditions to be met by the Civil Service Commission were new. No classified lists existed in some of the mechanical divisions which occur. All men employed, however, are now on regular lists of the Commission, and the selection of excellent gangs under this system is wholly successful. The wages paid are in accordance with those paid by other employers on similar work, and the work done by each man is fully as much as is obtained anywhere.

The cost of the 2,942 feet of 16-foot sewer built this year is \$43.38 per lineal foot, which cost includes a proportionate cost of the plant.

On Section G-3, being that portion of Section G lying in Cornell avenue, between Fifty-first street and Fifty-sixth street, work was commenced in August. The diameter of this sewer is 14.25 feet, and the character of the excavation is the same as in the northern portion.

On this portion of Section G, much more preliminary work was necessary than in the northern portion. The sewer in the roadway was replaced by two pipe sewers, one inside each curb line, and additional gas and water pipes were laid and the house services reconnected to all three classes of pipe, so that the roadway is free for the operation of the machinery in driving sheeting and in excavating.

To take care of the sewage from houses on Cornell avenue there was built inside the curb line on east side of street a total of 1,280 lineal feet of 15-inch pipe sewer and 5,138 lineal feet of 12-inch pipe sewer. Of the main intercepting sewer (14.25 feet in diameter) there was built at the end of the year 144 lineal feet.

There is not sufficient of the 14.25-foot sewer completed to allow a statement of the cost per foot to be made, but there is no reason to think that it will exceed the estimated cost.

The total value of the machinery and tools on Section G, the property of the City, being used in construction on the lake shore and on Cornell avenue, is \$45,700.00. The machinery is all of the highest class and very satisfactory in operation.

SECTION M.

This work is the breakwater and protection pier for the land to be made in Lake Michigan on the line of Thirty-ninth street produced for the pumping station to be operated in connection with the Thirty-ninth street conduit.

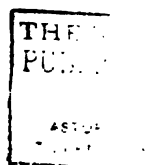
The work, which consists of a pile of rip-rap enclosure, was let in September, and about one-third was completed before the bad weather had set in.

The work in the Division is now in a state that will admit of very satisfactory progress in the coming year.

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TOTAL LENGTH OF INTERCEPTING CONDUITS BUILT TO DECEMBER 31, 1901.

STREET.	FROM	TO	Diameter Feet.	BUILT FEET.	
				Previous Work	Work in 1901
A.	Fourteenth	Chicago river	5 $\frac{1}{2}$	1,075	1,075
	State	Twelfth	5 $\frac{1}{4}$	1,280	1,280
	Twelfth	State	4 $\frac{1}{2}$	400	400
	Twelfth	Wabash	4	817	817
B.	Twenty first	Chicago river	8	3,287	3,287
	21st and Prairie avenue	State	5 $\frac{1}{4}$	2,227	2,227
	State	Twenty second	6	518	518
	State	Twenty second	5 $\frac{1}{4}$	92	92
	Intersection	Prairie avenue and	3	50	50
	Intersection	State and	Twenty second	861	861
	Twenty second	Prairie avenue	Illinois Central railroad	2,091	2,091
	Thirty ninth	Halsted	New Invert 18 $\frac{1}{2}$ x 22	88	88
C.	Thirty ninth	Halsted	1 $\frac{1}{4}$	1,916	1,916
	Thirty ninth	Halsted	1	4,150	905
	Thirty ninth	Butler	20	405	265
	Thirty ninth	Butler	16	3,006	3,006
D.	Lawrence avenue	Chicago river	16	4,022	4,022
	Lawrence avenue	Beacon	1 $\frac{1}{4}$	4,018	4,018
	Lawrence avenue	Beacon	1 $\frac{1}{2}$	1,477	1,477
	Lawrence avenue	Beacon	8	2,458	2,458
E.	Sheridan road	Lawrence avenue	7 $\frac{1}{4}$	2,601	2,601
	Sheridan road	Argyle avenue	7 $\frac{1}{2}$	2,610	2,610
	Sheridan road	Balmoral avenue	7	2,692	2,692
	Sheridan road	Ardmore avenue	6 $\frac{1}{4}$	2,641	2,641
	Sheridan road	Granville avenue	6	1,372	1,372
	Sheridan road	Devon avenue	5	1,378	1,378
	Sheridan road	Pratt avenue	4 $\frac{1}{4}$	1,303	1,303
	Sheridan road	Lunt avenue	3 $\frac{1}{4}$		



TOTAL LENGTH OF INTERCEPTING CONDUITS BUILT TO DECEMBER 31, 1901.

STREET.	FROM	TO	Diameter Feet.	BUILT, FEET.	
				Previous Work	Work in 1901
A.	Fourteenth	Chicago river	5 1/2	1,075	1,073
	State	Fourteenth	5 1/4	1,280	1,280
	Twelfth	State	4 1/2	400	400
	Twelfth	Wabash	4	817	817
B.	Twenty first	Illinois Central railroad	8	3,287	3,287
	Chicago river	State	5 1/4	2,227	2,227
	21st and Prairie avenue	Twenty second	6	518	518
	State	Twenty second	5 1/4	92	92
C.	Intersection	Prairie avenue and	3	50	50
	Inter-section	State and	New Invert	861	861
	Twenty second	Prairie avenue	18 1/2 x 22	2,091	2,091
	Thirty ninth	Halsted	1 1/4	88	88
D.	Thirty ninth	Halsted	1	1,916	1,916
	Thirty ninth	Butler	20	4,159	905
	Lawrence avenue	Chicago river	16	465	265
	Lawrence avenue	Beacon	16	3,906	3,906
E.	Lawrence avenue	Lake Michigan	1 1/4	4,022	4,022
	Lawrence avenue	Lake Michigan	1 1/2	4,018	4,018
	Sheridan road	Lawrence avenue	8	1,477	1,477
	Sheridan road	Argyle avenue	7 1/4	2,458	2,458
F.	Sheridan road	Argyle avenue	7 1/2	2,061	2,061
	Sheridan road	Balmoral avenue	7	2,610	2,610
	Sheridan and Devon avenue	Granville avenue	6 1/4	2,692	2,692
	Sheridan road	Devon avenue	6	2,641	2,641
G.	Sheridan road	Pratt avenue	5	1,372	1,372
	Sheridan road	Lunt avenue	4 1/4	1,378	1,378
	Sheridan road	Touhy avenue	3 1/4	1,303	1,303
	Sheridan road	Bryan avenue	3 1/4	1,303	1,303

TOTAL LENGTH OF INTERCEPTING CONDUITS BUILT TO DECEMBER 31, 1901—CONTINUED.

Sections.	STREET.	FROM	TO	Diameter, Feet.	BUILT, EET.		TOTAL.
					Previous Work.	Work in 1901.	
F.	Sheridan, Lakeide and Clarendon ares.	Lawrence avenue	Montrose avenue	6	3,925		3,925
	Clarendon, Birchland and Pine Grove ares.	Montrose avenue	Lake Shore drive	5½	2,792		2,792
	Lake Shore drive	Pine Grove avenue	Addison	4¾	2,450		2,450
	Lake Shore drive	Addison	Melrose avenue	4½	2,900		2,900
	Lake View avenue	Melrose avenue	Wellington avenue	3½	1,660		1,660
	Lake View avenue	Wellington avenue	Surf	3	855		855
G.	Along Lake Shore	Thirty-ninth	Forty-third	16		2,942	2,942
	Cornell avenue	Fifty-first	Southward	14½		144	144
	Cornell avenue	Fifty-first	Fifty-sixth	1½		1,280	1,280
	Cornell avenue	Fifty-first	Fifty-sixth	1		5,138	5,138
	Farwell avenue	Sheridan road	Lake Michigan	1½	760		760
J.	North Shore avenue	Sheridan road	Lake Michigan	1½	960		960
Total					66,196	10,674	76,870

Respectfully submitted,

WM. E. QUINN,

Superintendent Bureau of Sewers.

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8 7-10-01 18th St. Track Elevation. Main St. looking east.

ANNUAL REPORT

Bureau of Streets

CITY OF CHICAGO

1901

M. J. DOHERTY

Superintendent

BUREAU OF STREETS.

HON. F. W. BLOCKI,

Commissioner of Public Works.

DEAR SIR: I have the honor to submit herewith the Twenty-sixth Annual Report of the Bureau of Streets for the fiscal year ending December 31, 1901:

FINANCIAL STATEMENT.

(Appropriation for 1901.)

For removal of garbage, street and alley cleaning, repairing improved and unimproved streets and alleys, and sidewalks	\$1,046,880.00
For restoration of streets	78,000.00
For removal of snow	40,000.00
For maintaining city dumps	43,620.00
For ward superintendents' salaries	49,000.00
For rental of ward yards	4,500.00
For corporation inspectors' salaries	40,000.00
For maintaining public parks	16,700.00
For office salaries, including obstruction inspectors' salaries	31,666.00
For office expenses	1,500.00
For engineer, etc., steam roller	1,630.00
For construction of plant to destroy garbage	25,000.00
	<hr/>
	\$1,378,496.00

Special Appropriations.

For repairing Western avenue	\$ 1,000.00
For repairing Vincennes road	1,000.00
For repairing Milwaukee avenue	1,000.00
For repairing Lincoln avenue	1,000.00
For repairing Grand avenue	1,000.00
For repairing Clark street	1,000.00
For cleaning and opening ditches	7,500.00
For temporary playgrounds	1,000.00
	<hr/>
	\$ 14,500.00
	<hr/>
	\$1,387,996.00

DISBURSEMENTS.

For removal of garbage	\$ 490,302.39
For street and alley cleaning	370,200.84
For repairing improved streets and alleys	78,844.94
For repairing unimproved streets and alleys	44,088.87
For repairing sidewalks	52,725.27
For restoration of streets	14,311.63
For removal of snow	40,000.00
For maintaining city dumps	43,620.00
For ward superintendents' salaries	48,422.29
For rental of ward yards	4,500.00
For corporation inspectors' salaries	24,553.69
For maintaining public park	11,314.02
For office salaries, including obstruction inspectors' salaries	26,327.94
For office expenses	1,500.00
For engineer, etc., steam roller	1,132.13
For construction of plant to destroy garbage	1,763.82
Unexpended balance	120,388.17
Special appropriations canceled by Finance Committee May 24, 1901	14,500.00
	<hr/> \$1,887,996.00

GARBAGE.

During the year there were removed 1,333,920 cubic yards of garbage, or 269,825 loads, at a cost of \$490,302.39.

The total number of garbage complaints during the year was 2,086. The increase in the number of complaints over 1900 was due to the fact that the "Clean Street Ordinance," which was passed on the 18th of February, 1901, provided for the use of metal receptacles for garbage and ashes and the abolishment of wooden boxes, and in investigating and checking up these complaints it was found that not one-fourth were bona fide, but were made for the sole purpose of annoying and discouraging the department in its efforts to enforce the clean street ordinance. To make this ordinance thoroughly effective it is necessary to give service daily, but this the bureau is unable to do except in certain portions of the City, owing to the limited appropriation. However, semi-weekly service is general throughout the City. In its first efforts to enforce the clean street ordinance the department found it necessary to call on the Police Department for assistance, and three officers were assigned to each ward superintendent, with the exception of the First ward, where four officers were assigned, making a total of one hundred and six officers. This bureau had the assistance of these officers during the months of May, June, July, August and September, during which time they distributed 314,430 clean street

ordinances, 99,939 notices to provide metal receptacles, 82,489 notices to remove wooden garbage boxes, 15,854 notices to remove manure boxes; 795 arrests were made for non-compliance with the provisions of the ordinance, and fines amounting to \$907.20 were imposed. Special attention was given to the removal of wooden garbage and manure boxes from improved streets and alleys, and there were removed 49,073 garbage boxes and 6,791 manure boxes. Within two months of the enforcement of the ordinance, with but few exceptions all wooden garbage boxes had been removed from off the sidewalks; 218 cement, stone or brick manure vaults were built. Where manure vaults have not been built to take the place of boxes removed the manure is kept upon the premises. The number of districts in the City where garbage cans are used almost exclusively is 231, and the number of districts where cans have not been substituted generally is 170. The department will make every effort during the year 1902, with the limited appropriation at its command, to effect a general compliance with the provisions of the clean street ordinance throughout the entire City.

STREET AND ALLEY CLEANING.

During the year there were cleaned 18,921 $\frac{1}{2}$ miles of streets and alleys, necessitating the removal of 161,584 loads of dirt; 3,237,419 lineal feet of weeds were cut; 357,244 inlets to catch basins were opened and cleaned. There were also cleaned 13,594,108 lineal feet of alleys by laborers in can districts, the expense of this item being included in garbage expense. The total cost of street and alley cleaning, cutting of weeds, and opening of inlets amounted to \$370,200.84. There were also removed from the downtown district 34,042 loads of snow at a cost of \$40,000.

The following number of dead animals were removed during the year:

Horses.....	3,012
Cows.....	115
Dogs.....	5,049
Cats.....	1,067
Sheep.....	75
Goats.....	51
Monkeys.....	4
Seals.....	3
Total.....	9,367

REPAIRS ON IMPROVED STREETS.

During the year the following work was done under the supervision of ward superintendents:

38,475 square yards of new cedar blocks were laid.
 34,984 square yards of old cedar blocks were relaid.
 15,783 square yards of granite blocks were relaid.
 14,725 square yards of macadam.
 3,726 square yards of asphalt.
 357 square yards of brick.

In connection with which the following material was used :

Gravel.....	1,419 cubic yards.
Cinders and spawls.....	40,591 cubic yards.
Crushed stone.....	3,542 cubic yards.
Tar.....	19¼ barrels.
New lumber.....	84,618 feet.
Old lumber.....	32,798 feet.

At a total cost of \$78,344.94.

REPAIRS ON UNIMPROVED STREETS AND ALLEYS.

Ditches opened and cleaned	976,609 lineal feet.
Grading by hand and machines	3,066,380 lineal feet.
Aprons renewed and repaired.....	568
Crossings renewed and repaired.....	2,100
Culverts renewed and repaired.....	1,802
Drain boxes renewed and repaired.....	34

In connection with this work the following material was used :

New lumber	596,194 lineal feet.
Old lumber	168,830 lineal feet.
Nails.....	199 kegs.
Slag and cinders.....	40,304 cubic yards.

At a total cost of \$44,088.87.

SIDEWALKS.

During the year the following work was done :

Intersections renewed and repaired	2,852
General repairs	12,525

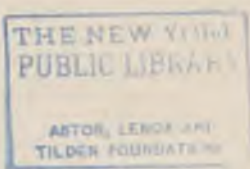
In connection with which the following material was used :

New lumber.....	907,214 lineal feet.
Old lumber relaid.....	1,305,563 lineal feet.
Nails.....	745 kegs.
Cinders	863 loads.

At a total cost of \$52,725.27.



34-11-20-01 18th St. Truck Elevation - Mainier Throop St. looking north. - Portable Air Compressor for operating pneumatic riveter -



SMALL PARKS.

There are at present twenty-four small parks under the care of this bureau, as follows :

Ellis Park.	Jefferson Park.
Douglas Monument Park.	Eldred Park.
Aldine Square.	Gross Park.
Washington Square.	De Kalb Square.
Green Bay.	Norwood Park.
Oak Park.	Dauphin Park.
Lakewood Park.	East End Park.
Kedzie Park.	Fernwood Park.
Bickerdike Square.	Normal Park.
Congress Park.	Holstein Park.
Irving Park.	72d Street Park.

Triangular, bounded by Ogden, Clark and Wells streets.

Triangular, bounded by North Clark street, Belden avenue and Sedgwick street.

The appropriation for the year was \$15,200. This was reduced \$3,500, leaving \$11,700 for improving and maintaining the various parks.

The total expenditure for the year 1901 amounted to \$11,314.02, of which sum \$6,792.73 was paid for salary and labor; \$1,383.25 was paid for trees; \$288 was paid for shrubbery; \$400 was paid for bedding plants; \$1,350 for black soil; \$1,150.04 was also expended for grass seed, plumbing, tools, repairing, teaming, etc.

There were on the average thirteen laborers and gardeners employed throughout the year, distributed as follows:

January.....	5	July.....	18
February.....	5	August.....	14
March.....	11	September.....	14
April.....	23	October.....	12
May.....	23	November.....	9
June.....	16	December.....	7

Nine hundred and eight trees were planted, of which 250 (amounting to \$500) were paid for by the Improvement Club of the Thirty-second ward. There were also planted 547 shrubs and 6,000 bedding plants; 1,226 yards of good, black soil was also used for improving various parks.

The following small parks were improved during the year: Holstein Park (now in charge of the West Park Board); Irving Park, Seventy-second Street Park, Bickerdike Square and Dauphin Park. All other parks which were improved prior to 1901 were maintained; and although the amount of money available for this purpose was nominal, these parks were provided with plants and shrubs and were kept in a good condition throughout the year.

The following parks should be improved this year: East End Park, which at present is not improved. Fernwood Park, of which only a small part is planted. Seventy-second Street Park should be enlarged so as to include the lot at the corner of Lowe avenue and Seventy-second street, which lies in the middle of the park and is private property, upon which rubbish is deposited, thereby spoiling the appearance of the entire park. Congress Park should also be improved so as to give it more the appearance of a park. Oak Park, which was under the care of the Chicago Women's Club last year, should also be improved. The thoroughfare between the railroad and Normal Park and the railroad and Seventy-second Street Park should be cleared of all telegraph poles and said thoroughfare included within the Normal and Seventy-second Street parks.

The two triangular parks, one bounded by Ogden, North Clark and Wells streets, and the other by North Clark street, Belden avenue and Sedgwick street, should be turned over to the Lincoln Park Commissioners, as they properly belong to the Lincoln Park system.

The City should have special police protection for its small parks, as is the case in other cities. I would also recommend that only skilled laborers be employed in taking care of the City's small parks.

Especially in the densely settled districts these breathing places have proved a great blessing to the poorer classes, and during the warm, sultry summer days were constantly thronged with men, women and children. It would be most desirable if a larger amount of money could be appropriated for these parks so that they may be kept in a good condition, provided with benches and seats and further improved for the benefit of the people that live great distances from the larger parks.

DIVISION OF PERMITS.

Permits were issued to open improved streets as follows:

People's Gas Light & Coke Company.....	16,211
Chicago Edison Company.....	513
Chicago Telephone Company.....	238
Ogden Gas Company.....	146
Various corporations.....	32
City Departments.....	1,306
Plumbers and sewer builders.....	1,210
Manure vaults, improved alleys.....	194
<hr/>	
Manure vaults, unimproved alleys.....	24
Unimproved street opening permits.....	3,693
Use of street permits.....	591
Inspection fee permits.....	42
Miscellaneous permits.....	2,150



36 11-20-01 1891 St. Track Elevation - Joseph St. looking east

THE NEW YORK
PUBLIC LIBRARY

ASTOR, LENOX AND
TILDEN FOUNDATIONS

**PAVEMENTS REPAIRED BY THE PEOPLE'S GAS LIGHT & COKE
COMPANY ON STREET PERMIT OPENINGS.**

Square Yards, Cedar.	Square Yards, Macadam.	Square Yards, Granite.	Square Yards, Brick.	Square Yards, Asphalt.
121,954	26,990	10,881	824	1,063

**PAVEMENTS REPAIRED BY THE CHICAGO EDISON COMPANY
ON STREET PERMIT OPENINGS.**

Square Yards, Cedar.	Square Yards, Macadam.	Square Yards, Granite.	Square Yards, Brick.	Square Yards, Asphalt.
5,492	133	7,884	166	815

**PAVEMENTS REPAIRED BY THE CHICAGO TELEPHONE COMPANY
ON STREET PERMIT OPENINGS.**

Square Yards, Cedar.	Square Yards, Macadam.	Square Yards, Granite.	Square Yards, Brick.	Square Yards, Asphalt.
11,616	3,179	221	223	290

**PAVEMENTS REPAIRED BY THE OGDEN GAS COMPANY ON
STREET PERMIT OPENINGS.**

Square Yards, Cedar.	Square Yards, Macadam.	Square Yards, Granite.	Square Yards, Brick.	Square Yards, Asphalt.
14,754	4,394	...	...	...

ANNUAL REPORT HOUSE MOVING, 1901.

MONTHS.	No. Permits Issued.	DIMENSIONS.			DESCRIPTION.	DIVISION.			FEES.		Amount.	REMARKS.		
		Stories High.				Front Width.	North.	South.	West.	\$1.00			\$5.00	
		One.	Two.	Three.										
January.....	10	5	5	..	217	9	1	..	2	8	7	3	\$ 22.00	{ 17265 used for duplicate to 16986; 17268 spoiled; 17274 void; 17405 issued for same building. 17279 used for sample.
February.....	10	7	3	..	190	8	2	..	3	7	5	5	30.00	
March.....	43	25	18	..	934	33	10	12	14	17	28	15	103.00	
April.....	75	43	30	2	1,611	69	6	12	37	26	41	34	211.00	{ 17401 issued following month. 17401 from preceding month; 17411 spoiled; 17425 void; 17445 issued for same building. Two buildings on Permit 17519.
May.....	52	26	26	..	1,042	39	13	7	21	24	37	15	112.00	
June.....	67	35	31	2	1,499	53	15	11	33	24	44	23	164.00	
July.....	56	32	25	..	1,214	49	8	10	22	25	31	26	161.00	{ 17542-17548 spoiled and 17599 issued for same building. 17610 and 17618 spoiled; 17598 and 17601 issued in their stead.
August.....	47	18	30	2	1,181	37	13	4	17	29	20	27	142.00	
September.....	52	28	22	3	1,080	41	12	7	15	31	31	21	141.00	
October.....	61	37	24	..	1,308	44	17	9	22	30	26	35	201.00	17652 void—sample.
November.....	43	18	24	1	980	40	3	8	18	17	31	12	91.00	17738 void—sample copy.
December.....	30	17	14	..	676	28	3	8	9	14	10	20	115.00	{ 17800 and 17813 spoiled; two build- ings moved on No. 17816.
Total.....	546	291	252	10	11,882	450	103	88	213	252	811	236	\$1,268.00	



18TH STREET TRACK ELEVATION—CROSSING AT HALSTED STREET.



In conclusion, I wish to say that, considering the way the department was hampered by an inadequate appropriation, I am well satisfied with the work of the past year, and many of the members of the City Council have expressed their satisfaction at the condition of their respective wards. I also desire to thank my assistant superintendents for their able assistance.

Very respectfully,

M. J. DOHERTY,

Superintendent of Streets.



30 11-20-01 18th Track Elevation - Holsted St. - looking NW. from Engineer's office.

ANNUAL REPORT

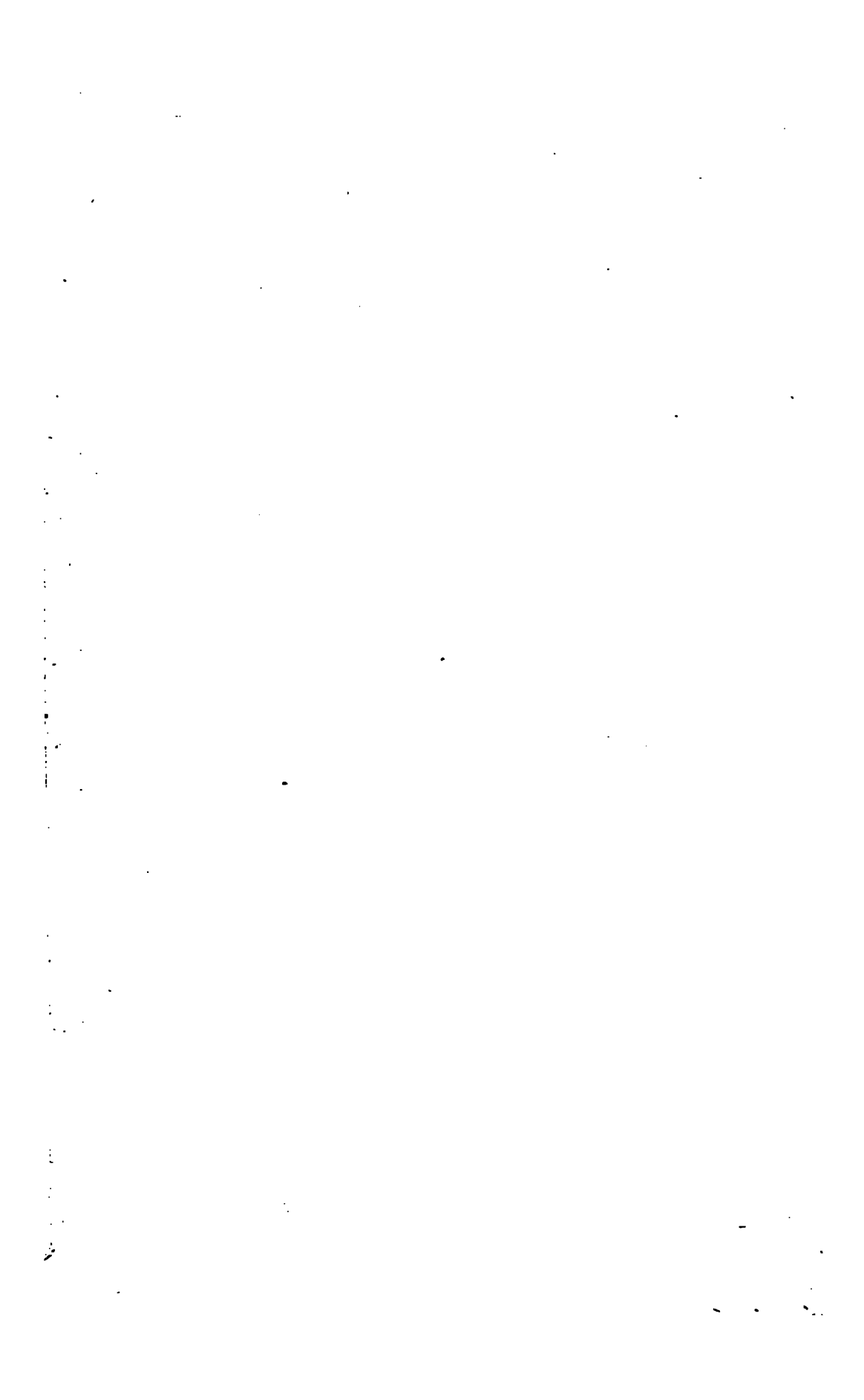
Bureau of Maps and Plats

CITY OF CHICAGO

1901

CHAS. J. BUHMANN

Superintendent



BUREAU OF MAPS AND PLATS.

CHICAGO, January 1, 1902.

HON. F. W. BLOCKI,

Commissioner of Public Works.

DEAR SIR: I have the honor to submit herewith the annual report of the Bureau of Maps and Plats for the year ending December 31, 1901.

The work performed and completed for the various departments, the public, and the different officials of the municipal government, are as follows:

MILEAGE OF PLATS MADE FOR THE BOARD OF LOCAL IMPROVEMENTS.

799 Sidewalk Assessment plats, covering.....	540.74 miles
474 Street Improvement Assessment plats, covering.....	328.99 "
187 Sewer Extension Assessment plats, covering.....	74.25 "
126 Water Pipe Extension Assessment plats, covering.....	59.75 "
761 Street Improvement Estimates, covering.....	485.75 "
2,347 Miscellaneous plats, covering.....	1,459.48 miles.

ACREAGE OF PLATS MADE FOR THE BOARD OF LOCAL IMPROVEMENTS (OTHER THAN ABOVE).

108 Street Improvement Assessment plats, covering.....	4,085.00 acres.
24 Sewer Extension Assessment plats, covering.....	445.00 "
13 Water Pipe Extension Assessment plats, covering.....	190.00 "
26 Street Improvement Estimates plats, covering.....	1,550.55 "
2 Miscellaneous plats for Board of Local Improvements.....	40.00 "
5 Lamp Post Assessment plats.....	85.00 "
148 Condemnation plats for Council and Record.....	1,480.55 "
1 Map (5 Sections) City of Chicago.....	122,008.32 "
327 Miscellaneous plats, covering.....	129,834.42 acres.

MILEAGE OF PLATS FOR MISCELLANEOUS DEPARTMENTS.

66 Survey plats for Street Department.....	42.75 miles.
11 plats for Corporation Counsel (Railroad).....	22.25 "
2 plats for Commissioner of Public Works (Railroad right of way)	12.50 "
79 Miscellaneous plats, covering.....	77.50 miles.

STATEMENT OF THE DEPARTMENT OF PUBLIC WORKS.

1. Data received of Board of Public Works.	343.10	Acres.
2. Miscellaneous data, received.	3.10	"
3. Data of the Department of Public Works.	5.0	"
4. Data of the Department of Public Works.	80.0	"
5. Data of the Department of Public Works.	18.0	"
6. Data of the Department of Public Works.	12.0	"
7. Data of the Department of Public Works.	185.0	"
8. Data of the Department of Public Works.	1,108.31	"
9. Data of the Department of Public Works.	70.0	"
10. Data of the Department of Public Works.	1,351.0	"
11. Data of the Department of Public Works.	40.40	"
12. Data of the Department of Public Works.	5.0	"
13. Miscellaneous data, received.	1,108.31	Acres.

DEPARTMENT OF PUBLIC WORKS.

1. Data received of various departments.	34
2. Data received of the various departments.	129
3. Miscellaneous, including house and lot numbers.	300
4. Data of the Department of Public Works.	10
5. Data of the Department of Public Works.	38
6. House numbers served.	302
7. House numbers served.	3,108
8. Miscellaneous, legal descriptions and various departments.	4,106
9. Legal descriptions of lots.	1,224
10. Total of public securing assistance.	17,305

Approximately 17,305 persons out of 17,305 make use of this department securing assistance, which adds 17,305 to the 17,305 number, or a total of 34,610 persons that have made use of or required information to be put out in this statement.

Total mileage of streets in 1900.	4,552.31
Total mileage of streets increased in 1901.	10.38
Making present total mileage of.	4,562.69

I beg to quote the following report of H. H. Bramer, Deputy County Surveyor:

Quincy, September 4, 1900.

Mr. E. Allen Reed, Deputy Comptroller of Public Works.

DEAR SIR: Herewith I append an approximate map of Clark County, Illinois, compiled from Government surveys and with reference to the data secured from the

County Clerk's maps. To my knowledge, no survey has been made of the County since the Government laid it out.

Land area of Cook County.....	599,160 acres.
Water area of Cook County.....	4,700 "
Total	603,860 acres.

In my experience as a surveyor in Cook County, I find that all but the north and west sections of a township measure about twenty (20) feet more than a standard mile. This would add five (5) acres to each of the remaining twenty five (25) sections, or a total of thirty two hundred seventy-five (3,275) acres for the County.

Total area per Government and Cook County map..	603,860 acres.
Total excess per standard measure.....	3,275 "
Approximate area of Cook County.....	607,135 acres.
	or 947.083 square miles.

Yours respectfully,

H. H. BREMER,
Deputy County Surveyor.

The names of the following streets were changed between the cross streets below mentioned in 1901:

Pacific avenue changed to *La Salle avenue*.

Truster street changed to *Marshfield avenue*.

Thirty-fourth place, from Cottage Grove avenue to Rhodes avenue, changed to *Douglas place*.

Humboldt street changed to *Richmond street*.

Dearborn street, from Fifty-fifth to Sixty-first street, changed to *Lafayette avenue*.

Armour avenue, from Fifty-fifth to Sixty-first street, changed to *Grove avenue*.

Shipp avenue changed to *East End avenue*.

Noble avenue, east of Western avenue, changed to *Barry avenue*.

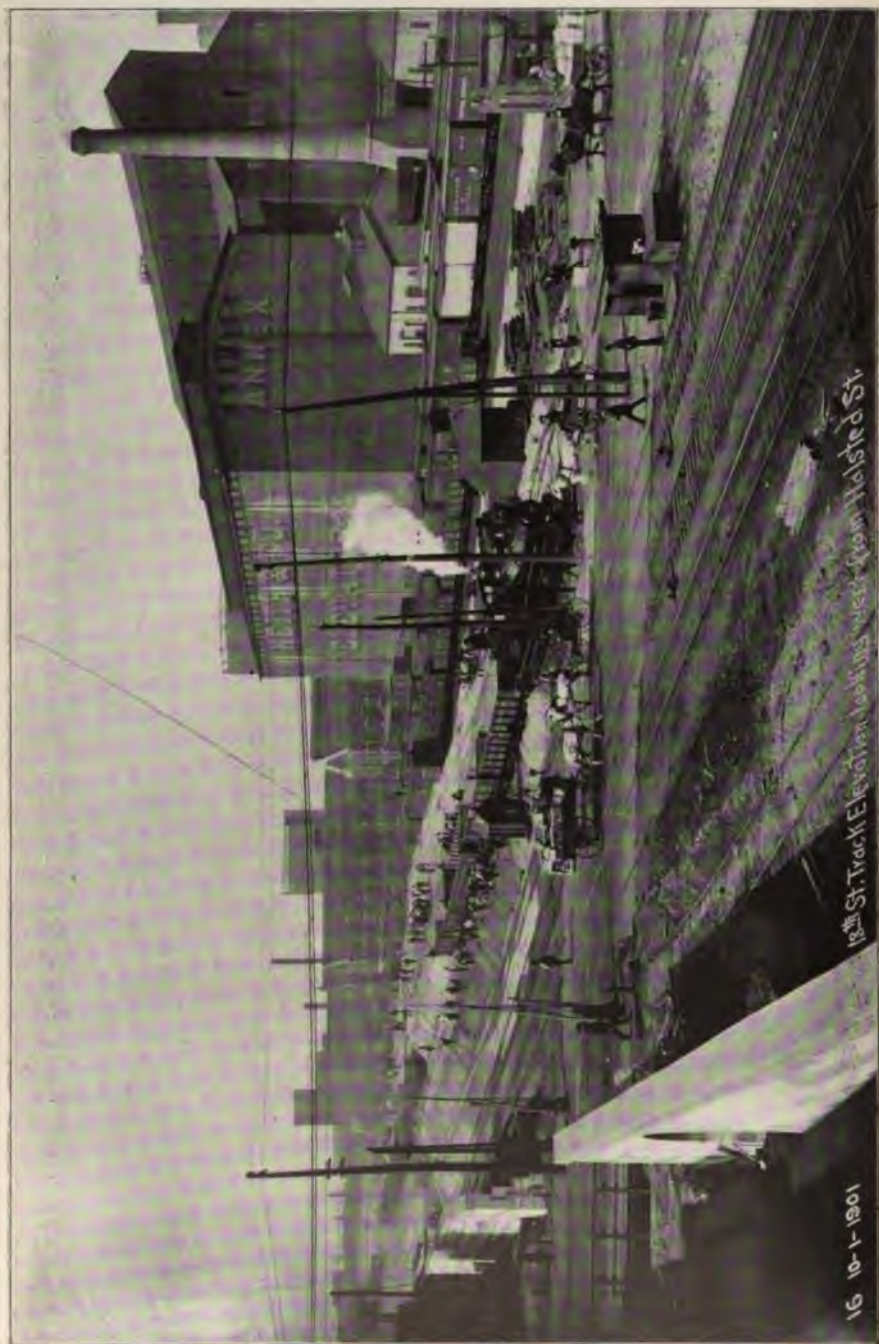
Stony Island avenue changed to *Jackson Park avenue*.

In conclusion, I wish to express my appreciation for the co-operation and support extended to me by you and the various officials of the City with whom my duties have brought me in contact.

Respectfully submitted,

CHAS. H. BUHMANN,
Superintendent of Maps and Plats.

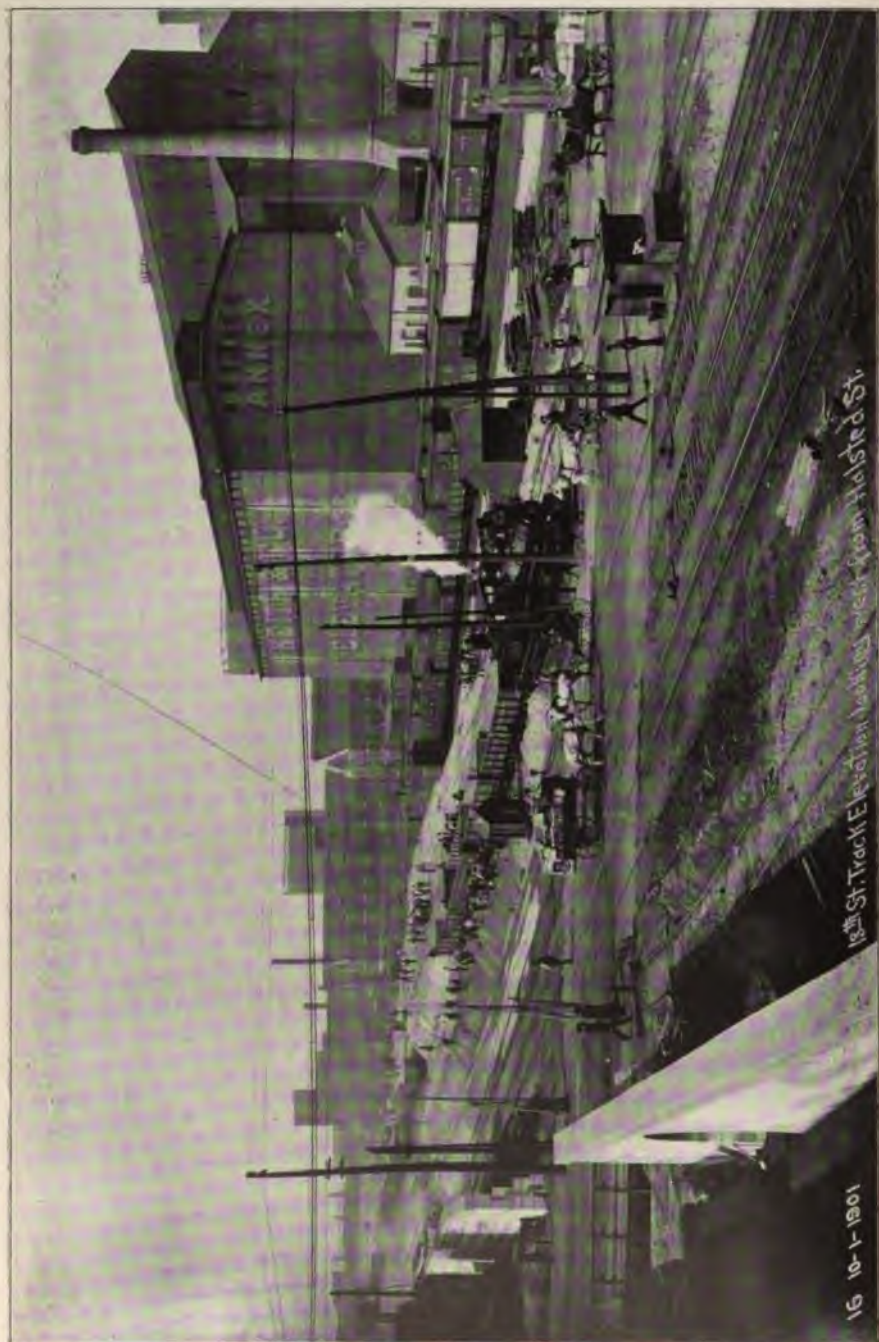
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16 10-1-1901

19th St. Track Elevation, looking west from Holsted St.

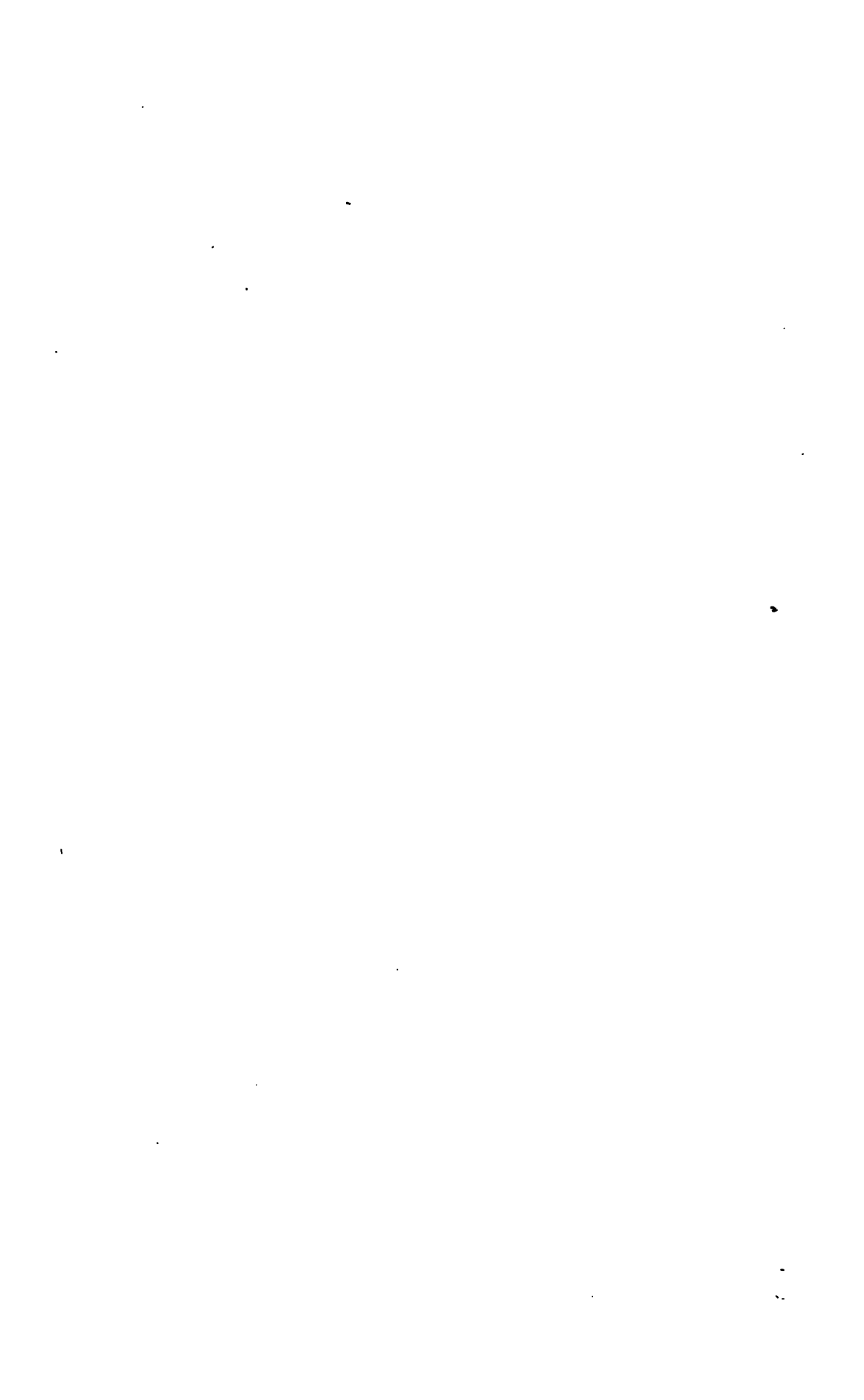
Bookkeeper's Statement



16 10-1-1901

18th St. Track Elevation looking west from Holsted St.

Bookkeeper's Statement



BOOKKEEPER'S STATEMENT.

HON. F. W. BLOCKI,

Commissioner of Public Works.

DEAR SIR:—I herewith respectfully submit statement in detail of the receipts and expenditures of the Department of Public Works for the year 1901.

WATER WORKS.

Since the purchase of the Water Works in 1854 from the Chicago Hydraulic Company the City has expended, to December 31, 1901, including the cost of the said company's property, \$34,061,076.98, as follows:

Cost, up to May 1, 1861, when the Works were transferred from the Board of Commissioners to Board of Public Works.....\$ 1,020,160.21

EXPENDITURES SINCE 1861.

Cost of water pipe, including labor.....	\$16,759,090.62
Mains for fire protection.....	10,382.49
Cost of works, annexed territory.....	1,160,164.24
Cost of North pumping works.....	1,032,283.53
Cost of South pumping works.....	673,370.79
Cost of Fourteenth street bath.....	4,495.34
Cost of Central pumping works.....	373,881.55
Cost of West pumping works.....	944,893.77
Cost of Twenty-second street bath.....	1,423.04
Cost of Sixty-eighth street pumping works.....	393,584.76
Cost of Lake View pumping works.....	194,708.48
Cost of Washington Heights pumping works.....	27,720.95
Cost of Norwood Park pumping works.....	9,681.72
Cost of Canal pump for 1899.....	247.00
Cost of Springfield avenue pumping works.....	422,532.22
Cost of Central Park avenue pumping works.....	415,145.83
Cost of real estate for sites for pumping stations, etc.....	864,099.51
Cost of new lake tunnel.....	1,104,744.12
Cost of Lake View tunnel.....	701,792.45
Cost of Sixty-eighth street tunnel extension.....	748,459.74
Cost of Chicago avenue tunnel extension.....	42,436.45
Cost of Ashland avenue tunnel.....	17,453.36
Cost of Kedzie avenue tunnel extension.....	35,561.75
Cost of first lake tunnel.....	464,866.05
Cost of second lake tunnel.....	415,709.36
Cost of land tunnel to West pumping works.....	542,912.63
Cost of new land tunnel.....	284,380.04
Cost of new land tunnel, 1895.....	2,116,677.42
Cost of Western avenue tunnel.....	29,614.58
Cost of Northeast lake tunnel, 1895.....	673,935.17
Cost of Jefferson street tunnel.....	15,968.17
Cost of new lake shore inlet.....	132,345.34
Cost of two lake shore inlet extension.....	167,552.13
Cost of two-mile tunnel extension.....	37.50

Carried forward.....\$31,301,812.31

Brought forward	\$31,301,912.31
Cost of North breakwater.....	41,780.11
Cost of two-mile crib.....	102,994.43
Cost of four-mile crib.....	469,574.83
Cost of Lake View crib.....	92,874.08
Cost of removal of Lake View inner crib.....	4,950.00
Cost of Sixty-eighth street crib.....	47,420.47
Cost of removal of intermediate crib.....	8,931.45
Cost of Carter H. Harrison crib.....	58,327.86
Cost of lake crib protection.....	149,431.63
Cost of intercepting sewers.....	1,635,959.77
Cost of water works shop.....	27,240.58
Cost of water works stock.....	29,318.00
Cost of water reservoir fence.....	1,702.87
Cost of addition to stables.....	1,019.48
Cost of new repair shops.....	42,749.11

Total Cost of entire works to December 31, 1901.....\$34,061,076.98

This sum was paid as follows:

From general taxes.....	\$2,713,878.53
From City of Chicago Water Loan bonds, 4 per cent.....	3,191,500.00
From annexed territory.....	197,525.48
From City of Chicago Water Loan bonds 3 $\frac{5}{8}$ per cent.....	332,000.00
From City of Chicago Water Loan bonds, 3 $\frac{1}{2}$ per cent.....	328,500.00
From bonds canceled.....	2,307,900.00
From Hyde Park Water Loan bonds, 5 per cent.....	50,000.00
From Town of Lake Water Loan bonds, 5 per cent.....	15,000.00
From Lake View Water Loan bonds, 4 per cent.....	50,000.00
From Lake View Water Loan bonds, 5 per cent.....	23,000.00
From water certificates.....	1,799,000.00
From water certificates canceled.....	4,367,000.00
From water earnings.....	18,685,772.97

Total.....\$34,061,076.98

Total Water Works income to December 31, 1901.....	\$58,293,601.50
Total operating expenses and maintenance in 1901.....	\$ 1,426,410.79
Interest on bonds and certificates.....	9,055,666.21
Bonds and certificates canceled, \$6,674,900: less \$5,000 paid by City Comptroller out of sinking funds.....	6,669,900.00
Operating expenses and maintenance to December 31, 1900.....	21,602,512.78
	<u>\$38,754,489.78</u>

Difference between income and expenses.....\$19,589,111.77

Accounted for as follows:

Paid toward Water Works construction.....	\$18,685,772.97
Meter Department, stock on hand.....	7,787.04
Water Works shops, stock on hand.....	38,775.07
Tapping Department, stock on hand.....	1,390.82
Water Pipe, etc., stock on hand.....	145,744.23
Balance to credit of Water Fund, January 1, 1902.....	\$1,102,655.65
	<u>\$19,977,005.83</u>
Less amount due depositors for hydrant wrenches.....	\$ 2,267.82
Less amount advanced by private parties to lay water pipe in non-paying districts.....	435,625.74
	<u>437,893.56</u>
	<u>\$19,589,111.77</u>

BONDED DEBT OF WATER WORKS.

City of Chicago Water Loan bonds outstanding December 31, 1901, bearing 4 per cent interest and maturing as follows:

July 1, 1908.....	\$ 150,000.00	
July 1, 1910.....	159,500.00	
July 1, 1912.....	821,000.00	
July 1, 1914.....	576,000.00	
July 1, 1915.....	1,485,000.00	
		\$3,191,500.00
Bearing $3\frac{1}{8}\%$ per cent interest, maturing—		
July 1, 1902.....		332,000.00
Bearing $3\frac{1}{2}\%$ per cent interest, maturing—		
July 1, 1909.....	\$ 225,000.00	
July 1, 1910.....	103,500.00	
		328,500.00

ANNEXED DISTRICTS.

Hyde Park:		
5 per cent bonds, due January 1, 1904.....		50,000.00
Town of Lake:		
5 per cent bonds, due April 1, 1902.....		15,000.00
Lake View:		
5 per cent bonds, due July 1, 1904.....	\$ 23,000.00	
4 per cent bonds, due July 1, 1907.....	50,000.00	
		73,000.00

Total bonded debt of Water Works.....	\$ 3,990,000.00
Total interest paid on Water Loan to December 31, 1901.....	\$ 9,055,666.21

FINANCIAL.

The sum appropriated by the Common Council, together with various amounts from other sources, to be expended in public improvements under the supervision of the Department of Public Works during the year 1901, is as follows:

Balance January 1, 1901, to the credit of Water Fund....\$ 596,330.98

RECEIPTS.

Appropriation for 1901.....	\$2,447,253.16	
By transfer from contingent fund.....	10,000.00	
		2,457,253.16
Rent of Rookery lot.....		35,000.04
Water revenue, including meter and private work, tapping permits and sale of old material.....		3,448,460.48
Advance to lay water mains.....		20,997.29
Total.....		\$6,558,041.95

EXPENDITURES.

The expenditures were distributed as follows:		
Bridges and viaduct repairs and construction, street cleaning and removal of garbage, repairing improved and unimproved streets, public buildings and parks, sewer pumping stations, street intersections, sewer catch basins, labor, material and salaries.....	\$2,136,009.70	
Transferred to General Fund.....	311,243.46	
Transferred to Contingent Fund.....	10,000.00	
		2,457,253.16
Carried forward		\$2,457,253.16

Brought forward		\$61,677.23 16
Expenses of laying water pipe for fire fighting and revenue purposes	161,274.24	
Intercepting sewerage	417,411.47	
Water Works shop	50.00	
New land tunnel	5.75	
Fourteenth street pump	5,872.50	
Court costs in Sixty-eight street tunnel and new land tunnel cases	1,898.79	
Carter H. Harrison pump	1,077.71	
Norwood Park pump	4,719.56	
Washington Heights pump	11,324.12	
North pump	25,424.10	
Central Park avenue pump	30,344.44	
Springfield avenue pump	41,139.15	
Harrison street pump	1,953.00	
Refund erroneous water tax payments	11,441.01	
Maintenance of water system, operating pumping stations, cost of assessing and collecting water taxes, etc.	\$164,451.41	
Expenses defrayed by receipts for meter and private work, Water Works shop	5,303.57	
	1,429,896.79	
Redemption of water certificates	501.00	
Town of Lake bonds	15,000.00	
Interest on bonds and certificates	252,317.68	
Refund on deposits for hydrant warranties	80.00	
Refund of receipts	117.66	
		2,995,233.14
Balance to credit of Water Fund January 1, 1901		1,102,555.65
Total		\$ 6,595,041.95

WATER WORKS RECEIPTS AND EXPENDITURES

Credit balance, January 1, 1901 \$ 506,330.95

RECEIPTS

Water rate collections, including delinquents	\$487,120.06
Water Permit department	20,824.00
Water meter, labor, etc., for private parties	37,335.74
Rent for Hookery lot	15,000.00
Advance to lay water pipes	2,987.29
Bureau of Engineering	57.50
Unclaimed warrants deposited to credit	240.25
Earnings account Water Works shop	5,256.75
Old material sold	7,073.98
Refunds of public benefits	1,917.25
Warrants deposited bank	1.18
	8,504,457.81
	\$ 4,100,788.79

EXPENDITURES

Expenses of laying water pipe for fire fighting and revenue purposes	\$ 168,274.24
Transferred to General Fund amount due for office rent	11,945.00
Refund receipts	117.66
Water pipe repairs	275,099.34
New land tunnel 1893	5.75
Carried forward	\$ 450,341.99

BOOKKEEPER'S STATEMENT.

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Brought forward	\$ 450,341.99
Maintenance of tunnel plants.....	69.89
Council orders.....	238.33
Legal expense.....	7,888.68
City employes' transportation.....	7,798.00
Twenty-second street bath.....	983.58
Meter and permit merchandise.....	11,210.64
North pumping station.....	164,155.19
West pumping station.....	110,558.27
South pumping station.....	133,573.43
Fourteenth street bath.....	1,006.00
Central pumping station.....	66,081.98
Sixty-eighth street pumping station.....	120,799.44
Lake View pumping station.....	81,973.82
Washington Heights pumping station.....	20,692.75
Norwood Park pumping station.....	12,234.29
Canal pumping station.....	227.70
Central Park avenue pumping station.....	99,985.14
Springfield avenue pumping station.....	101,034.20
Water Works shop.....	19,546.21
Two mile crib.....	21,854.60
Four mile crib.....	6,208.52
Lake View crib.....	7,315.97
Sixty eighth street crib.....	6,897.08
Carter H. Harrison crib.....	10,619.58
Water Office salaries.....	233,510.06
Water Office expense (including City Engineer's and Street Department charges) and postage.....	17,721.11
Water proportional (office salary).....	33,204.60
Water proportional (office expenses).....	4,122.98
Fullerton avenue pump.....	20,157.71
Hydrant wrench deposits, refunded.....	30.00
Hydrant rentals.....	22,661.77
Refund erroneous water tax payments.....	10,400.57
Dredging inspectors and harbor police.....	7,749.25
Town of Lake water loan bonds.....	15,000.00
Water loan interest.....	253,317.68
Water loan certificates.....	501,000.00
Intercepting sewers.....	417,611.28
Refund sundry deposits.....	70.85
Balance to credit of Water Fund January 1, 1902.....	1,102,555.65
Total.....	\$ 4,100,788.79

WATER FUND RECEIPTS.

Balance to credit January 1, 1901.....	\$ 596,330.98
Amount collected during the year for current rents assessed.....	\$2,158,351.52
Amount collected during the year for current rents meter measurements.....	1,198,402.60
Amount collected during the year for miscellaneous charges, Water office.....	12,760.86
Amount collected during the year for use of water on permits.....	2,587.08
Amount received for taps and permits, etc., account of Permit department.....	20,824.06
Amount received account of water meter, labor, etc., for private parties.....	37,355.79
Amount received for rent of Rookery.....	35,000.04
Carried forward	\$3,465,281.95
	\$ 596,330.98

Brought forward	\$3,465,281.95	\$ 596,330.98
Amount received from advances to lay water pipes.....	20,997.29	
Unclaimed warrants deposited back.....	840.25	
Bureau of Engineering.....	87.50	
Amount received from earnings of Water Works shop...	8,258.78	
Amount received from sale of old material.....	7,073.03	
Refund of public benefits.....	1,917.88	
Warrant deposited back.....	1.13	
		<u>3,504,457.81</u>
Total receipts Water Fund.....		<u>\$4,100,788.79</u>

WATER PIPE EXTENSION.

Pay rolls	\$ 82,204.09	
Water Works shops, labor and material.....	14,529.89	
Bureau of Water: Permit division, labor and material.	1,751.64	
Bureau of Water: Meter mechanical division, labor.....	20.80	
Bureau of Streets: Repaving streets.....	4,310.75	
Repaving Diversey boulevard.....	788.00	
Cutting openings.....	23.00	
M. J. Joyce & Co., laying pipe.....	1,579.03	
Cast iron pipe	23,009.15	
Sleeves, valves, tees and plugs.....	2,505.32	
Pipe castings.....	615.84	
Special castings.....	986.57	
Iron valve basin covers.....	2,906.98	
Hydrant rings and covers.....	1,313.30	
Sewer pipe.....	1,232.55	
Department of Supplies: Tools, etc.....	216.06	
Brick, cement and sand.....	6,233.50	
Lumber.....	2,089.47	
Lead.....	3,813.49	
Boxes and grates.....	105.00	
Sundries: Hip-boots, ropes, tar, etc.....	219.12	
Pipe jointers.....	39.10	
Lead, furnace and kettle.....	52.64	
Paints.....	33.48	
Cedar blocks.....	66.75	
Coal.....	95.75	
Kerosene.....	9.25	
Gasket.....	87.50	
Carrying-sticks	19.50	
Two horses.....	240.00	
Use of horse and buggy.....	60.00	
Horse board.....	153.00	
Horse shoeing.....	45.50	
One set tires.....	47.50	
Cast Iron Pipe: Freight and car service.....	100.02	
Teaming.....	7,312.50	
Inspection.....	269.87	
Furnishing and setting fire hydrants.....	1,360.00	
Plumbing: Repairs	104.85	
Repairing heating apparatus.....	126.04	
Printing, books and stationery.....	321.95	
Telephone service.....	306.14	
Railroad tickets.....	17.80	
Services.....	388.32	
Office rent.....	1,120.00	
Ground rent.....	270.00	
Advertising.....	223.73	
Carried forward.....		\$ 163,274.24

Brought forward..... \$ 163,274.24

REPAIRS AND MAINTENANCE.

Pay rolls.....	\$ 219,958.88
Water Works shops: Labor and material.....	15,838.45
Bureau of Water: Permit division, labor and material.....	740.69
Bureau of Water: Ferrules, etc.....	28.56
Bureau of Streets: Restoration of streets.....	303.28
South Park Commissioners: Restoration of streets.....	155.26
Cutting openings.....	80.60
Repairing streets.....	51.10
Fire Department: Pumping and hose.....	605.00
Valve basin covers.....	2,875.16
Hydrant rings and covers.....	34.40
Hydrant sleeves, etc.....	895.00
Valves and miscellaneous parts.....	181.51
Lead and lead pipe.....	720.77
Sewer pipe.....	245.51
Iron, bolts, etc.....	15.83
Leather rings.....	29.55
Lumber.....	1,159.66
Cedar blocks.....	246.75
Brick, cement and sand.....	4,540.18
Gasket.....	75.00
Paints and varnish.....	73.15
Hose and couplings.....	186.83
Sundries: Tar, ropes, rubbers, etc.....	251.99
Department of Supplies: Tools, etc.....	602.23
Repairing tools.....	78.05
Hand pumps.....	32.07
Window glass.....	5.55
Oil torches.....	84.60
Kerosene, etc.....	113.24
Lead furnace.....	29.15
Coal and wood.....	501.00
Pipe fittings.....	49.00
Plumbing.....	220.83
Repairing testing machine.....	49.20
Use of steam roller.....	22.50
Rent of tar kettle.....	15.00
Manure.....	298.06
Teaming.....	19,452.15
Roofing.....	85.00
Plastering.....	5.00
Use of horse and buggy.....	4.00
Horse board.....	1,989.00
Horseshoeing.....	398.97
New wagons and harnesses.....	418.00
Wagon and harness repairs.....	235.86
Horse blankets.....	57.81
Printing, books and stationery.....	215.48
Telephone service.....	254.39
Services.....	560.62
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	375,099.84

CHICAGO AVENUE PUMP OPERATION.

Pay rolls.....	\$ 45,636.41
Coal.....	69,322.31
Oil, grease and packing.....	1,051.31
Waste and rope.....	393.70
Boiler compound.....	507.84
Gas.....	762.40
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Carried forward.....	\$ 117,674.01
	\$ 438,373.58

Brought forward	\$ 117,674.01	\$ 438,373.58
Rent of gas regulator.....	57.50	
Telephone service.....	209.61	
Department of Supplies: Tools, etc.....	239.45	
Printing and stationery.....	36.09	
Sundries.....	149.92	
Soap powder.....	77.34	
Kerosene.....	9.75	
Lumber.....	5.85	
Ice.....	51.90	
Towel supplies.....	12.00	
Teaming.....	338.50	
Services.....	69.25	
		118,931.17

CHICAGO AVENUE PUMP MAINTENANCE.

Pay rolls.....	\$ 13,231.95	
Water Works shops: Labor and material.....	485.63	
Engine repairs.....	1,382.00	
Boiler repairs.....	1,186.17	
Valves, castings and parts.....	360.23	
Steel, iron, bolts, etc.....	118.88	
Grate bars.....	103.94	
Steamfitting.....	703.90	
Pipe fittings.....	634.50	
Covering steam pipes.....	88.00	
Packing.....	248.34	
Brick.....	139.43	
Cement and sand.....	212.95	
Lumber.....	199.56	
Lead.....	100.79	
Department of Supplies: Hose, etc.....	108.49	
Sundries: Hardware, tools, etc.....	44.62	
Plumbing.....	59.50	
Catch basin.....	77.00	
Glass.....	23.75	
Paints and varnish.....	176.90	
Black earth and seeds.....	67.35	
Coal.....	5.25	
Steam hose.....	44.08	
		19,804.36

CHICAGO AVENUE PUMP CONSTRUCTION.

Pay rolls.....	\$3,704.00	
Boilers and furnaces.....	10,500.00	
Cut stone work and masonry.....	5,464.70	
Structural iron work.....	979.70	
Roofing.....	2,528.75	
Covering pipe.....	606.60	
Pipe fittings.....	298.51	
Steamfitting.....	326.50	
Inspecting machinery.....	280.00	
Teaming.....	15.70	
Services.....	72.22	
Grating.....	48.75	
Lumber.....	138.48	
Cement and sand.....	162.00	
Crushed stone.....	108.00	
Carried forward.....	\$ 25,234.81	\$ 577,109.01

BOOKKEEPER'S STATEMENT.

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Brought forward.....	\$ 25,234.81	\$ 577,109.01
Brick	21.87	
Sewer pipe	98.66	
Vault cover, door, etc.....	23.04	
Paint.....	12.00	
Bolts	14.50	
Department of Supplies: Wheelbarrows and nails.....	14.88	
		25,419.76

FOURTEENTH STREET PUMP OPERATION.

Pay rolls.....	\$ 41,555.18	
Coal.....	68,178.78	
Oil, grease and packing.....	1,429.48	
Waste and rope.....	498.14	
Boiler compound.....	337.81	
Gas	148.00	
Telephone service.....	4.61	
Department of Supplies: Tools, etc.....	376.57	
Printing and stationery.....	21.00	
Sundries	84.71	
Soap powder.....	55.76	
Kerosene.....	12.25	
Lumber	5.85	
Ice	48.39	
Towel supplies.....	16.25	
Paints.....	3.55	
Valves, hose, etc.....	38.00	
Seeds and plants.....	4.50	
		112,818.83

FOURTEENTH STREET PUMP MAINTENANCE.

Pay rolls.....	\$ 5,807.12	
Water Works shops: Labor and material.....	607.69	
Engine repairs.....	1,582.98	
Boiler repairs.....	798.62	
Valves, castings and parts.....	432.42	
Steel, iron, bolts, etc.....	106.38	
Grate bars.....	370.08	
Steamfitting	205.20	
Pipe fittings.....	757.87	
Covering steam pipes.....	552.00	
Packing.....	46.53	
Brick.....	121.20	
Cement, sand and fire clay.....	114.15	
Lumber	125.51	
Lead.....	9.76	
Window glass.....	82.00	
Paints	46.36	
Department of Supplies: Brushes, etc.....	34.80	
Scale repairs.....	28.51	
Roof repairs.....	498.00	
Sundries: Hardware, tools, etc.....	95.62	
Coal.....	4.50	
Grass seed, etc.....	4.95	
		12,382.10

FOURTEENTH STREET PUMP CONSTRUCTION.

Lake Erie Engineering Works, reserve on engine.....	\$ 8,202.91	
Gate valve.....	169.59	
		8,372.50
Carried forward.....		\$ 786,102.30

Brought forward..... \$ 786,102.20

FOURTEENTH STREET BATH OPERATION.

Pay rolls.....	\$ 720.00	
Towels.....	37.50	
Laundering towels.....	147.65	
Department of Supplies: Soap, brooms, etc.....	60.05	
		<u>965.20</u>

FOURTEENTH STREET BATH MAINTENANCE.

Pay rolls.....	\$ 40.80	
		<u>40.80</u>

HARRISON STREET PUMP OPERATION.

Pay rolls.....	\$ 24,427.05	
Coal.....	30,415.66	
Oil, grease and packing.....	940.54	
Waste and rope.....	249.80	
Boiler compound.....	106.88	
Gas.....	357.60	
Telephone service.....	4.61	
Department of Supplies: Tools, brushes, etc.....	169.44	
Printing and stationery.....	20.98	
Sundries.....	66.05	
Soap powder.....	74.25	
Kerosene.....	5.75	
Lumber.....	5.85	
Ice.....	83.87	
Towel supplies.....	12.00	
Rubber hose.....	18.95	
Cement and sand.....	5.50	
		<u>56,909.78</u>

HARRISON STREET PUMP MAINTENANCE.

Pay rolls.....	\$ 4,328.42	
Water Works shops: Labor and material.....	146.40	
Engine repairs.....	487.10	
Boiler repairs.....	557.85	
Valves and parts.....	119.09	
Steamfitting.....	45.20	
Pipe fittings.....	77.17	
Covering steam pipes.....	957.50	
Packing.....	333.31	
Brick, cement and sand.....	121.45	
Lumber.....	90.37	
Window glass.....	53.65	
Paints and varnish.....	45.55	
Department of Supplies.....	2.35	
Plumbing.....	73.65	
Sundries: Hardware, brushes, etc.....	29.36	
		<u>7,468.42</u>

HARRISON STREET PUMP CONSTRUCTION.

Pipe fittings.....	\$ 1,022.97	
Steamfitting.....	363.20	
Valves.....	260.86	
Locks.....	1.75	
		<u>1,653.78</u>
Carried forward.....	\$ 803,140.18	

BOOKKEEPER'S STATEMENT.

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Brought forward..... \$ 803,140.18

WEST PUMP OPERATION.

Pay rolls.....	\$ 34,309.60
Coal.....	63,840.93
Oil, grease and packing.....	1,168.92
Waste and rope.....	263.07
Boiler compound.....	391.54
Gas.....	352.60
Telephone service.....	4.61
Department of Supplies: Metal polish, tools, etc.....	191.04
Printing and stationery.....	27.76
Sundries: Hardware, etc.....	75.02
Soap powder.....	41.08
Kerosene.....	12.85
Lumber.....	5.85
Ice.....	49.20
Towel supplies.....	13.75
Electrical supplies and lamps.....	76.74
Valves.....	95.96
Leather.....	9.75
Grass seed.....	4.40
Services.....	69.61

100,514.91

WEST PUMP MAINTENANCE.

Pay rolls.....	\$ 4,848.69
Water Works shops: Labor and material.....	979.71
Engine repairs.....	1,341.45
Boiler repairs.....	822.31
Valves and parts.....	507.61
Pipe fittings.....	187.64
Brick, cement and sand.....	233.65
Lumber.....	199.02
Window glass.....	50.69
Paints and varnish.....	90.43
Department of Supplies: Tools, etc.....	17.18
Plumbing.....	14.30
Sundries: Hardware, felt, etc.....	59.30
Beltting.....	16.70
Window guards.....	10.35
Scale and scale repairs.....	277.65
Grate bars.....	154.55
Springs.....	70.64
Rubber hose.....	14.24
Teaming.....	87.97
Electrical supplies.....	49.34

10,013.36

TWENTY SECOND STREET BATH OPERATION.

Pay rolls.....	\$ 780.00
Towels.....	15.00
Laundering towels.....	17.58
Department of Supplies: Soap.....	9.75

812.33

TWENTY SECOND STREET BATH MAINTENANCE.

Pay rolls.....	\$ 101.25
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101.25

Carried forward..... \$ 914,632.03

Brought forward..... \$ 914,632.03

SIXTY-EIGHTH STREET PUMP OPERATION.

Pay rolls	\$ 39,570.21
Coal.....	61,830.40
Oil, grease and packing.....	1,305.09
Oil tanks.....	195.00
Waste and rope.....	402.51
Boiler compound.....	454.84
Electrical supplies.....	42.50
Telephone service.....	179.61
Department of Supplies: Brooms, polish, etc.....	241.25
Printing and stationery.....	25.98
Sundries: Hardware, etc.....	91.85
Soap powder.....	75.86
Kerosene.....	36.50
Lumber.....	5.85
Ice.....	39.00
Towel supplies.....	6.00
Hose and couplings.....	37.00
Weighing cars.....	235.75
Services.....	52.75

104,888.04

SIXTY-EIGHTH STREET PUMP MAINTENANCE.

Pay rolls	\$ 10,473.23
Water Works shops: Labor and material.....	425.66
Engine repairs.....	1,710.56
Boiler repairs.....	848.74
Valves and parts.....	517.19
Steel, iron, bolts, etc.....	105.45
Grate bars.....	38.60
Pipe fittings.....	290.28
Covering steam pipes.....	128.00
Packing.....	285.91
Brick, cement and sand.....	175.15
Lumber.....	226.45
Window glass.....	70.00
Paints and varnish.....	216.72
Department of Supplies: Tools, nails, etc.....	53.70
Roof repairs.....	36.00
Sundries: Hardware, shades, etc.....	94.41
Electrical supplies.....	87.21
Coal.....	11.20
Storm sashes.....	20.40
Transoms.....	15.90
Blocks and pulleys.....	28.40
Flag pole.....	50.00
Teaming.....	53.24

15,911.40

LAKE VIEW PUMP OPERATION.

Pay rolls	\$ 28,643.30
Coal.....	35,996.82
Oil, grease and packing.....	1,501.19
Oil tanks.....	195.00
Waste and rope.....	315.08
Boiler compound.....	304.83
Gas.....	225.40
Telephone service.....	129.61

Carried forward..... \$ 67,810.78 \$1,085,481.47

BOOKKEEPER'S STATEMENT.

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Brought forward	\$ 67,810.73	\$1,035,431.47
Department of Supplies: Tools, brushes, etc.....	297.85	
Printing and stationery.....	36.61	
Sundries: Hardware, etc.....	112.35	
Soap powder.....	68.63	
Kerosene.....	4.29	
Lumber.....	5.85	
Ice.....	83.00	
Hose and couplings.....	96.18	
Pipe fittings.....	182.19	
Gauge tester.....	60.80	
Steel, iron, bolts, etc.....	67.82	
Paints.....	10.58	
Clock.....	22.50	
		68,309.33

LAKE VIEW PUMP MAINTENANCE.

Pay rolls	\$ 5,073.12	
Water Works shops: Labor and material.....	44.75	
Engine repairs.....	1,867.60	
Boiler repairs.....	1,736.71	
Valves and parts.....	944.49	
Grate bars.....	271.88	
Steamfitting.....	953.60	
Pipe fittings.....	395.04	
Covering steam pipes.....	172.00	
Packing.....	803.63	
Brick, cement and sand.....	246.00	
Lumber.....	806.44	
Window glass.....	19.50	
Paints and varnish.....	114.08	
Steel, bolts, iron, etc.....	34.16	
Department of Supplies: Tools, etc.....	34.25	
Sundries: Hardware, leather, etc.....	143.54	
Electrical supplies and lamps.....	808.81	
Scale and scale repairs.....	137.50	
Generator.....	275.00	
Doors.....	23.25	
Rubber hose.....	100.74	
Plumbing.....	68.50	
		13,664.49

SPRINGFIELD AVENUE PUMP OPERATION.

Pay rolls	\$ 24,470.80	
Coal.....	23,565.60	
Oil, grease and packing.....	909.86	
Waste and rope.....	205.26	
Boiler compound.....	29.00	
Telephone service.....	179.61	
Department of Supplies: Tools, brushes, etc.....	210.71	
Sundries: Hardware, etc.....	124.17	
Printing and stationery.....	38.89	
Electrical supplies.....	73.98	
Gauge.....	80.00	
Soap powder.....	39.49	
Kerosene.....	17.93	
Lumber.....	5.85	
Ice.....	29.67	
Carried forward	\$ 49,980.27	\$1,117,405.29

Brought forward	\$ 49,980.27	\$1,117,405.29
Hose and couplings	79.02	
Steel, iron, bolts, etc	10.71	
Scales	53.40	
Clock	22.50	
Desk and chairs	28.50	
Grass seed	11.80	
Services	14.68	
Water Works shops: Labor and material .....	.82	
		50,201.70

SPRINGFIELD AVENUE PUMP MAINTENANCE.

Pay rolls	\$ 2,956.11	
Water Works shops: Labor and material	108.10	
Valves and parts	23.58	
Water cylinders	101.37	
Bilge pump rocker arm	5.75	
Grate bars	195.66	
Steamfitting	77.60	
Pipe fittings	600.99	
Packing	143.07	
Brick, cement and sand	44.70	
Lumber	38.73	
Window glass	23.45	
Paints	88.00	
Steel, iron, bolts, etc	14.42	
Department of Supplies: Tools, etc	19.80	
Sundries: Hardware, graphite, etc	92.75	
Carbon brushes, etc	12.96	
Lubricators	12.39	
Tackle blocks	7.90	
Hose and couplings	37.13	
Radiators	23.52	
Storm sashes	11.80	
Roof repairs	35.00	
Teaming	19.01	
		4,093.29

SPRINGFIELD AVENUE PUMP CONSTRUCTION.

Pay rolls	\$ 8,095.11	
Water Works shops: Labor and material	812.74	
Building construction: John P. Agnew, contractor	13,824.93	
Engines: Henry R. Worthington, contractor	8,562.10	
Painting engines: Henry R. Worthington, contractor	330.00	
Steam drums: Henry R. Worthington, contractor	600.00	
Coal conveyors: McDonald Engineering Co., contractor	4,951.17	
Steam heating plant: Maginn & Bradley Co., contractor	1,665.56	
Putting runways over boilers	397.00	
Platforms	108.50	
Carriage for water tanks	65.00	
Floor plates	199.46	
Steel shells for wells	353.23	
Cast iron pipe and valves	295.50	
Testing machine	50.00	
Covering boilers and steam pipes	1,664.50	
Boiler repairs	4.00	
Pipe fittings	154.62	
Department of Electricity, Labor	72.00	
Carried forward	\$ 42,205.42	\$1,172,300.28

BOOKKEEPER'S STATEMENT.

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Brought forward.....	\$ 42,205.42	\$1,172,800.28
Electrical supplies.....	470.91	
Plumbing.....	1,241.02	
Calking.....	10.00	
Forgings.....	60.40	
Steel beams.....	40.60	
Steel, iron, bolts, etc.....	56.31	
Steel doors.....	412.00	
Door sill.....	8.00	
Door and windows.....	163.00	
Department of Supplies: Tools, nails.....	19.08	
Sundries: Hardware, etc.....	106.26	
Lumber.....	171.50	
Brick, cement and sand.....	552.50	
Crushed stone.....	158.56	
Paints.....	78.48	
Window glass.....	5.00	
Laundering towels.....	12.00	
Rent.....	185.00	
Printing.....	3.00	
Advertising.....	28.49	
Services.....	201.56	
Teaming.....	5.06	
		46,139.21

CENTRAL PARK AVENUE PUMP OPERATION.

Pay rolls.....	\$ 26,900.73	
Coal.....	31,668.47	
Oil, grease and packing.....	1,845.46	
Waste and rope.....	241.16	
Boiler compound.....	73.73	
Telephone service.....	165.86	
Department of Supplies: Tools, etc.....	352.72	
Sundries: Hardware, etc.....	197.78	
Electrical supplies.....	68.60	
Printing and stationery.....	34.74	
Gauge tester.....	50.00	
Car levers.....	9.00	
Valve reseating outfit.....	75.00	
Tube expander.....	16.50	
Soap powder.....	42.47	
Gasoline and kerosene.....	84.97	
Lumber.....	5.87	
Ice.....	22.80	
Steel, iron, bolts, etc.....	28.33	
Pipe fittings.....	38.49	
Laundering towels.....	2.25	
Lawn mower.....	6.85	
Grass seed.....	11.10	
Services.....	67.91	
		62,100.79

CENTRAL PARK AVENUE PUMP MAINTENANCE.

Pay rolls.....	\$ 3,266.75	
Water Works shops: Labor and material.....	71.79	
Valves and parts.....	76.20	
Tubes.....	30.55	
Repairing crank-pin box.....	5.60	
Carried forward.....	\$ 3,450.89	\$1,280,540.28

Brought forward	\$	8,450.89	\$1,280,540.28
Gasoline lamps.....		29.70	
Roof repairs.....		33.65	
Steamfitting.....		93.20	
Pipe fittings.....		393.41	
Packing.....		106.31	
Brick, cement and sand.....		57.23	
Lumber.....		120.67	
Paints and varnish.....		104.53	
Steel, iron, bolts, etc.....		30.13	
Department of Supplies: Tools, etc.....		51.89	
Sundries: Hardware, belting, etc.....		61.80	
Grass seed.....		5.00	
			<u>4,537.91</u>

CENTRAL PARK AVENUE PUMP CONSTRUCTION.

Pay rolls.....	\$	5,123.31	
Water Works shops: Labor and material.....		535.10	
Building construction John P. Agnew, contractor.....		8,696.77	
Engines: Henry R. Worthington, contractor.....		7,062.09	
Steam drums: Henry R. Worthington, contractor.....		600.00	
One 8-H. P. engine.....		140.00	
Coal conveyors: McDonald Engineering Co., contractor..		4,932.85	
Steam heating plant: Maginn & Bradley Co., contractor..		769.10	
Laying well floor: Jos. Halsted, contractor.....		875.00	
Platforms.....		108.50	
Carriage for water tanks.....		65.00	
Steel shells for wells.....		353.22	
Skylight.....		250.00	
Steel doors, door frames and windows.....		613.53	
Cast iron pipe.....		295.50	
Covering steam pipes.....		442.40	
Pipe fittings.....		254.79	
Department of Electricity: Labor.....		24.00	
Electrical supplies.....		81.25	
Plumbing.....		615.18	
Steel, iron, bolts, etc.....		88.88	
Lathe.....		390.00	
Department of Supplies: Tools, etc.....		6.30	
Sundries: Hardware, brushes, tools.....		166.47	
Lumber.....		284.34	
Brick, cement and sand.....		280.20	
Crushed stone.....		41.25	
Paints.....		89.93	
Window glass.....		9.05	
Teaming.....		42.37	
Services.....		160.06	
			<u>83,846.44</u>

WASHINGTON HEIGHTS PUMP OPERATION.

Pay rolls.....	\$	4,661.13	
Coal.....		3,753.80	
Oil, grease and packing.....		112.29	
Waste and rope.....		13.62	
Boiler compound.....		48.60	
Department of Supplies: Tools, soap, etc.....		39.85	
Sundries: Chimneys, etc.....		15.86	
Printing and stationery.....		19.44	
Soap powder.....		13.33	
Carried forward	\$	8,677.92	\$1,318,424.63

BOOKKEEPER'S STATEMENT.

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Brought forward.....	\$ 8,077.92	\$1,318,424.63
Kerosene.....	29.42	
Steam hose and couplings.....	4.84	
Teaming.....	3.50	
		8,715.18

WASHINGTON HEIGHTS PUMP MAINTENANCE.

Pay rolls.....	\$ 408.46	
Water Works shops: Labor and material.....	42.97	
Boiler repairs.....	239.40	
Tank repairs.....	452.08	
Gauge.....	80.85	
Valves and parts.....	19.22	
Oil tank.....	27.08	
Steamfitting.....	33.96	
Pipe fittings.....	45.54	
Catch basin.....	41.00	
Repairing closet.....	23.50	
Brick, cement and sand.....	101.87	
Crushed stone.....	175.35	
Department of Supplies: Tools.....	4.95	
Department of Supplies: Teaming.....	6.00	
Sundries: Elbow, etc.....	14.00	
		1,762.78

WASHINGTON HEIGHTS PUMP CONSTRUCTION.

Pay rolls.....	\$ 693.76	
Water tank and tower: Chicago Bridge Iron Works, contractors.....	8,177.92	
Pumping engine: Laidlaw Dunn Gordon Co., contractors.....	899.75	
Smoke stack.....	155.00	
Brick, cement and sand.....	252.00	
Lumber.....	9.91	
Teaming.....	2.68	
Advertising.....	24.82	
		10,214.84

NORWOOD PARK PUMP OPERATION.

Pay rolls.....	\$ 3,805.00	
Coal.....	1,672.11	
Oil.....	22.48	
Boiler compound.....	23.00	
Department of Supplies: Waste, hose, etc.....	35.80	
Sundries: Barrow, ladder, etc.....	18.11	
Printing and stationery.....	16.00	
Kerosene.....	5.93	
		5,098.51

NORWOOD PARK PUMP MAINTENANCE.

Pay rolls.....	\$ 39.90	
Boiler repairs.....	62.55	
Water cap.....	12.05	
Straps and clamps.....	9.80	
Steamfitting.....	67.95	
Carried forward.....	\$ 192.25	\$1,344,215.89

Brought forward.....	\$	192.25	\$1,344,215.89
Pipe fittings.....		66.57	
Furnace door lining		22.83	
Grate bars.....		35.31	
Roofing.....		52.00	
Fire clay.....		8.50	
Paints.....		3.55	
Blue prints.....		.21	
		--	376.22

NORWOOD PARK PUMP CONSTRUCTION.

Well and pump: W. H. Gray & Bro., contractors.....	\$	6,261.56	
Building addition.....		498.00	
		--	6,759.56

CANAL PUMP.

Unpaid bills 1899: T. F. Pickham.....			227.70
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FULLERTON AVENUE PUMP OPERATION.

Pay rolls	\$	9,904.69	
Coal		8,074.54	
Oil, grease and packing.....		446.53	
Grease cups.....		40.60	
Waste		28.80	
Boiler compound.....		75.60	
Gas		232.60	
Department of Supplies: Tools, soap, etc		36.96	
Sundries: Oil tank, cans, hardware.....		18.35	
Soap powder		17.13	
Kerosene.....		7.80	
Ice		18.04	
Teaming		22.58	
		--	18,924.22

FULLERTON AVENUE PUMP MAINTENANCE.

Pay rolls	\$	200.47	
Water Works shops: Labor and material.....		22.61	
Engine repairs		467.53	
Boiler repairs.....		45.00	
Repairing gauge		18.90	
Repairing engine register.....		12.00	
Copper blades for electric current wheel		19.75	
Grate bars		78.73	
Steamfitting		267.96	
Pipe fittings.....		48.09	
Packing		11.25	
Lumber		12.63	
Window glass.....		5.50	
Paints.....		2.18	
Iron, bolts, etc		6.51	
Leather		10.51	
Department of Supplies: Nails.....		.89	
Sundries: Hardware, springs, etc.....		7.98	
		--	1,238.49
Carried forward			\$1,871,737.08

Brought forward \$1,371,737.08

TWO MILE CRIB OPERATION.

Pay rolls	\$ 13,596.02
Tug service.....	6,494.10
Removing and placing ice boom.....	40.00
Coal	882.90
Coal baskets.....	4.25
Packing	16.39
Chain, cable and ropes.....	79.04
Department of Supplies.....	13.07
Kitchen utensils.....	32.34
Mattresses and blankets.....	57.57
Diving dress (share).....	8.15
Washing machine (share).....	1.40
Rubber boots.....	11.84
Lamp burners, etc.....	5.92
Kerosene.....	32.09
Soda, salt, etc.....	12.99
Blue prints.....	3.60
Advertising.....	6.35

20,748.42

TWO-MILE CRIB MAINTENANCE.

Pay rolls.....	\$ 218.90
Water Works shops: Labor.....	.82
Pipe fittings.....	4.82
Valve parts, etc.....	32.58
Electric brushes.....	1.86
Lead trap	1.99
Lumber	152.62
Paints.....	48.83
Tools and hardware.....	2.01
Ice scoops.....	18.00
Sundries: Linoleum, etc.....	57.90
Department of Supplies.....	50.78
Stove repairs.....	7.12
Steamfitting.....	8.00

606.18

FOUR-MILE CRIB OPERATION.

Pay rolls.....	\$ 3,968.62
Tug service.....	1,799.62
Coal.....	264.90
Department of Supplies.....	7.00
Kitchen utensils.....	2.45
Mattresses and bedding.....	19.10
Diving dress (share).....	8.15
Washing machine (share).....	1.40
Lamp burners, chimneys, etc.....	4.90
Kerosene.....	25.84
Salt.....	2.76
Blue prints.....	3.60
Advertising.....	6.35

6,114.69

FOUR MILE CRIB MAINTENANCE.

Pay rolls.....	\$ 66.50
Department of Supplies.....	11.38
Chain.....	4.60

Carried forward \$ 82.48 \$1,399,206.87

Brought forward	\$	82.48	\$1,309 206.37
Rope and blocks		1.90	
Cement and lime		8.45	
Paint		1.00	
			93.83

LAKE VIEW CRIB OPERATION.

Pay rolls	\$	4,638.07	
Tug service		1,750.09	
Coal		115.30	
Department of Supplies		7.00	
Kitchen utensils		14.80	
Ice chest		20.40	
Iron beds		36.00	
Towels, oil cloth, pillow cases		10.51	
Shades, brushes, etc.		8.07	
Diving dress (share)		8.15	
Washing machine (share)		2.35	
Boat cover		15.00	
Repairing ice scoop		4.50	
Repairing clock		2.00	
Kerosene		17.90	
Salt, soda		5.11	
Blue prints		3.60	
Advertising		6.36	
			6,663.21

LAKE VIEW CRIB MAINTENANCE.

Pay rolls	\$	27.00	
Water Works shops: Labor and material		3.23	
Tug service		108.00	
Pump fittings		344.76	
Sprocket wheel		6.25	
Pipe		6.35	
Scoop and ladle		5.25	
Smokestack		65.00	
Lumber		39.35	
Window sash and glass		3.70	
Paint		13.91	
Spikes		4.55	
Stove repairs		3.42	
Lamp chimneys and burners, etc.		4.88	
Department of Supplies		17.11	
			652.76

HYDE PARK CRIB OPERATION.

Pay rolls	\$	3,887.62	
Tug service		1,486.09	
Coal		332.90	
Department of Supplies		8.56	
Kitchen utensils		6.20	
Mattresses and bedding		35.87	
Diving dress (share)		8.15	
Washing machine (share)		1.40	
Hardware, lamp chimneys, etc.		7.72	
Kerosene		29.82	
Soda		2.25	
Blue prints		3.60	
Advertising		6.35	
			6,216.03
Carried forward			\$1,412,882.20

Brought forward \$1,412,832.20

HYDE PARK CRIB MAINTENANCE.

Pay rolls	\$ 251.40
Tug service	87.00
Sheet iron	54.60
Iron rods, bolts and washers	29.14
Smokestack	80.00
Lumber	199.47
Paint	6.25
Fire brick	4.95
Hardware and fittings	6.44
Cord	3.08
Stove repairs	2.23
Department of Supplies	6.64

691.05

CARTER H. HARRISON CRIB OPERATION.

Pay rolls	\$ 4,003.11
Tug service	1,926.60
Coal	510.00
Special lantern	40.00
Garbage crematory	80.00
Water tank	29.00
Department of Supplies	20.16
Kitchen utensils	1.05
Towels	2.25
Canvas bag	3.70
Diving dress (shared)	8.15
Washing machine (shared)	1.40
Ladder, mirror and hardware	8.70
Kerosene	94.72
Salt and ammonia	3.36
Blue prints	3.60
Advertising	6.36
Services	25.00

6,673.76

CARTER H. HARRISON CRIB MAINTENANCE.

Pay rolls	\$ 191.07
Water Workshops—Labor and material	27.84
Crane	497.00
Springs, bushings, etc	20.19
Pipe fittings	30.43
Smokestack	25.35
Steamfitting	65.50
Lumber	1.44
Paints	6.00
Lamp, hardware, cord	4.49
Sawdust	5.40

870.31

CARTER H. HARRISON CRIB CONSTRUCTION.

Super-structure: Fitz Simons & Connell Co.	\$ 1,258.87
Improvement of well rooms: Chicago Bridge & Iron Co.	1,760.00
Coal	25.00
Iron bolts	60
Cord	1.04

3,075.51

Carried forward \$1,424,132.63

Brought forward..... \$1,424,132.83

WATER WORKS SHOPS.

Pay rolls.....	\$ 36,916.35
Hydrant castings.....	7,855.48
Hydrant valves.....	1,265.75
Hydrant keys.....	90.72
Brass castings.....	4,760.24
Gears and parts.....	300.33
Forgings.....	27.38
Steel, iron, bolts, etc.....	1,230.97
Lead.....	782.75
Brass rods.....	20.50
Hickory sewer rods.....	15.00
Pipe fittings.....	45.19
Chains.....	57.37
Belting.....	33.45
Tools.....	33.05
Oil and packing.....	366.41
Waste and rope.....	56.66
Asphaltum, paints.....	255.11
Glass.....	15.40
Lumber.....	32.66
Department of Supplies: Tools, etc.....	101.23
Sundries: Copper, hardware, etc.....	44.84
Lead pot.....	7.50
Steam hose.....	52.88
Arc lamps and electrical supplies.....	49.65
Coal.....	145.50
Kerosene.....	4.29
Ice.....	16.64
Printing and stationery.....	64.45
Advertising.....	79.60
Services.....	21.00

54,247.80

Labor and material furnished W. P. Ext., etc..... 34,661.59

19,586.21

WATER OFFICE SALARIES.

Collection Department.....	\$ 55,090.64
Assessor's Department.....	21,519.72
Meter Rate Department.....	28,977.98
Meter Mechanical Department.....	13,379.09
Permit Department.....	43,729.31
Inspection Department.....	41,308.32
Shut-off Department.....	29,505.00

283,510.06

WATER OFFICE EXPENSE.

Water Works shops: Labor and material.....	\$ 1,928.12
Printing, binding and stationery.....	2,720.15
Ward ledgers.....	1,372.15
Department of Supplies.....	951.97
Hydrant and shut-off keys.....	11.00
Electrical supplies.....	38.00
Sundries: Hardware, seals, etc.....	52.83
Tools.....	11.02
Tapes.....	32.76
Hand wheels.....	9.00

Carried forward..... \$ 7,122.00 \$1,677,229.10

BOOKKEEPER'S STATEMENT.

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Brought forward	\$ 7,122.00	\$1,677,220.10
Cooler	8.00	
Signs	50.40	
Office chairs	21.88	
Vault cases	28.00	
Awnings	21.50	
Telephone service	300.00	
Time service	12.00	
Premium on bonds	244.00	
Typewriter repairs and rent	7.40	
Steamfitting	12.00	
Thawing service pipe	18.00	
Calclmning	25.00	
Gasoline	12.90	
Horse board	24.00	
Horseshoeing	23.50	
Buggy repairs	37.00	
Advertising	31.25	
		8 208 33

WATER OFFICE POSTAGE.

Stamps	8,000.00
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WATER OFFICE RENT.

Rent	11,845.00
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REIMBURSING CITY ENGINEER'S BUREAU
(WATER OFFICE).

Repairing leaks, etc.	1,481.00
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RESTORATION OF STREETS (WATER OFFICE).

Repairing openings	81.78
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METER MERCHANDISE.

Meter parts	\$ 3,286.00	
Covers and frames	1,457.14	
Pipe and fittings	532.22	
Dial plates	126.00	
Circular lights	11.50	
Meter seals and leads	13.25	
Lumber	523.45	
Sheet rubber	37.76	
Gasket rubber and packing	87.91	
Bolts and washers	100.34	
Copper, wire, tools	24.91	
Refund	43.75	
		6 244 23

PERMIT MERCHANDISE.

Corporation ferrules, couplings	\$ 4,495.16	
Lead pipe	306.18	
Valves	35.52	
Solder	69.55	
		4 966 41
Carried forward		\$1,718,005.85

DEPARTMENT OF PUBLIC WORKS.

Brought forward..... \$1,718,005.85

COMMISSIONER'S OFFICE SALARIES.

Pay rolls..... 14,878.24

COMMISSIONER'S OFFICE EXPENSE.

Printing annual report.....	\$ 2,247.14	
Books, stationery and printing.....	203.80	
Department of Supplies.....	321.42	
Time service.....	11.00	
Repairing chairs.....	6.50	
Premium on bonds.....	89.00	
Horse board and shoeing.....	228.75	
Horse blanket.....	5.25	
Buggy repairs.....	42.15	
Services.....	6.63	
Adjusting vault combinations.....	5.00	
Advertising.....	102.83	
		3,219.47

CITY ENGINEER'S OFFICE SALARIES.

Pay rolls..... 18,326.86

CITY ENGINEER'S OFFICE EXPENSES.

Printing and stationery.....	\$ 130.42	
Department of Supplies.....	457.17	
Telephone service.....	100.00	
Time service.....	9.00	
Blue prints.....	20.94	
Radiator.....	9.83	
Hardware, cash boxes, etc.....	18.65	
Services.....	157.50	
		908.51

NEW LAND TUNNEL, 1895.

Tin boxes..... 5.75

MAINTENANCE OF TUNNEL PLANTS.

Pay rolls.....	\$ 56.50	
Slushing oil.....	3.25	
Gasoline blow-tank.....	2.75	
Burlaps.....	7.39	
		69.89

LEGAL EXPENSE.

Court costs, witness fees, etc..... 7,888.68

CITY EMPLOYEES' TRANSPORTATION.

Street car and railroad transportation..... 7,798.00

HARBOR POLICE AND DREDGING INSPECTOR'S SALARIES.

Pay rolls..... 7,749.25

Carried forward..... \$1,778,790.00

Brought forward..... \$1,778,790.00

**WATER WORKS EXPENSE AND REPAIR ACCOUNT.
(HYDRANT RENTALS.)**

Rogers Park Water Co.....	\$ 9,483.83	
Chicago Suburban Water & Light Co.....	13,228.44	
		22,661.77

COUNCIL ORDERS.

Payment of damages, etc., on Council orders.....	283.83
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INTERCEPTING SEWERS.

Section D, Lawrence Avenue Conduit.

Pay rolls.....	\$ 7,437.45	
Construction: Farley & Green, contractors.....	2,276.99	
Pumping plant.....	7,639.80	
Lumber.....	108.45	
Brick.....	482.25	
Crushed stone.....	8,365.25	
Cement.....	156.00	
Sand.....	4.00	
Covers.....	12.50	
Water Pipe Extension: Relaying pipes.....	557.86	
Repairing pavement.....	280.00	
Use of steam roller.....	954.00	
Teaming.....	9.29	
Gasoline, torches, etc.....	27.84	
Department of Supplies.....	12.27	
		23,866.45

Section T. A., Lawrence Avenue Pumping Station.

Pay rolls.....		600.00
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Section C, Thirty-ninth Street Conduit.

Pay rolls.....	\$ 7,905.75	
Construction: John P. Agnew, contractor.....	94,144.94	
Pumping plant.....	9,615.75	
Replacing discharge trough.....	415.00	
Water Pipe Extension: Relaying pipe.....	40.75	
Carbon paint.....	15.66	
Repairing level and transit rods.....	7.75	
Teaming.....	2.37	
		112,147.97

Section G, South from Thirty-ninth Street.

Pay rolls.....	\$ 75,772.70	
Lumber.....	24,894.89	
Brick.....	29,208.95	
Cement.....	5,486.80	
Dynamite and exploders.....	870.53	
Steel, iron, bolts, etc.....	1,372.91	
Castings and forgings.....	1,036.18	
Pipe fittings and valves.....	1,131.59	
Gears and shafting.....	197.11	
Department of Supplies.....	835.97	
Tools, hardware, miscellaneous material.....	1,224.07	
Cables, chains and ropes.....	1,278.81	
Blocks and pulleys.....	218.06	
Grate bars.....	50.05	
Rails.....	485.50	
Steam hose and couplings.....	444.87	
Brace fittings.....	300.00	
Machine shop work.....	1,341.28	

Carried forward.....	\$ 145,747.47	\$1,937,699.53
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Brought forward.....	\$ 145,747.47	\$1,937,699.52
Spikes and nails.....	684.45	
Paints.....	79.50	
Coal.....	2,153.29	
Oil and packing.....	213.51	
Dunn screws.....	70.00	
Hand power winch and grapples.....	34.02	
Repairing tools.....	19.10	
Steamfitting.....	114.71	
Water Works shops: Labor.....	1.05	
Water Pipe Extension: Relaying pipe.....	84.00	
Rent of derrick.....	1,250.00	
Plans, etc., for swinging derrick.....	800.00	
Erecting of swinging derrick.....	250.79	
Royalty for use of patent.....	487.15	
Tools for derrick.....	111.20	
Rent for pile driver.....	792.00	
Erecting of pile driver.....	144.35	
Use of patent, etc., for pile driver.....	1,480.00	
Boilers and engines.....	8,677.70	
Pumps.....	717.95	
Pump repairs.....	23.69	
Hayward bucket.....	1,915.30	
Bucket sheave and leaves.....	646.00	
Bucket repairs.....	150.43	
Friction drums.....	299.00	
Turntable, etc.....	224.25	
Smokestacks.....	107.00	
Slide track.....	750.00	
Removing R. R. crossing.....	75.00	
Restoration of streets.....	48.00	
Trackage.....	11.00	
Telephone service.....	87.50	
Teaming.....	42.00	
Advertising.....	94.86	
Injuries account.....	403.15	
Services.....	137.26	

163,926.68

Section G8, from Fifty-first to Fifty-sixth street.

Pay rolls.....	\$ 22,688.88	
Water Pipe Extension: Relaying pipe.....	2,563.18	
Bureau of Water, Permit Department: Ferrules.....	105.45	
Machine shop work.....	440.28	
Lumber.....	15,551.08	
Brick.....	1,830.84	
Cement.....	555.60	
Sewer pipe.....	2,066.39	
Steel, iron, bolts, etc.....	522.55	
Castings, forgings, etc.....	938.83	
Shafts, etc.....	34.51	
Brace fittings.....	240.00	
Pipe fittings.....	89.99	
Spikes and nails.....	304.01	
Cable and rope.....	500.24	
Pulleys and blocks.....	48.40	
Manhole covers.....	294.17	
Coal.....	811.82	
Paints.....	15.00	
Oil, grease and packing.....	85.87	
Department of Supplies.....	224.41	

Carried forward.....\$ 49,401.45 \$2,101,626.20

Brought forward	\$ 49,401.45	\$2,101,626.20
Sundries: Tools, hardware, etc.....	226.88	
Grease cups, oilers.....	46.59	
Steam hose and couplings.....	271.41	
Trucks.....	86.75	
Rent of boiler.....	100.00	
Boilers and engines.....	1,505.00	
Boiler repairs.....	230.84	
Locomotive.....	2,995.00	
Rails.....	780.46	
Rail braces, frogs and switches.....	161.25	
Rail circles.....	128.00	
Oak ties.....	840.00	
Rail bender.....	86.78	
Pumps.....	918.74	
Cars.....	1,984.00	
Trench machine.....	4,700.00	
Hayward bucket.....	1,746.00	
Plans, etc., for swinging derrick.....	400.00	
Friction drums.....	450.00	
Drop hammer, etc.....	237.10	
Electric motor.....	198.40	
Electric cable.....	153.78	
Recording meter.....	22.50	
Desk and chair.....	19.24	
Stove and pipe.....	8.01	
Steamfitting.....	40.91	
Repairing water leaks.....	4.10	
Blacksmithing.....	20.65	
Teaming.....	55.00	
Injuries account.....	169.26	
Telephone service.....	66.31	
Trackage.....	2.00	
Freight charges.....	89.75	
		68,040.66
Section M. Intake Protection Pier at Thirty-ninth Street Conduit.		
Construction of pier: Lydon & Drews, contractor.....	\$ 8,095.61	
Pay rolls.....	510.50	
		8,606.11
Section S. A., Thirty-ninth Street Pumping Station.		
Pay rolls.....		600.00
Reconstruction Outfall, Twenty-second Street Sewer.		
Construction: M. P. Byrne, contractor.....	\$ 5,123.82	
Pay rolls.....	202.00	
Advertising.....	6.25	
		5,332.07
Section 4. Farwell and North Shore Avenue.		
M. P. Byrne: Five per cent reserve.....		237.66
Section 3. To make connections (retained on Cogan & Pound contract).		
Pay rolls.....	\$ 13.50	
Brick.....	14.50	
Cement.....	4.00	
		32.00
Complete Restoration of Thirty-ninth Street, between Halsted and Butler Streets and Dearborn Street and Vincennes Avenue.		
Repaving: R. F. Conway Co., contractor.....	\$ 20,968.88	
Work on open cut: Metropolitan Construction Co.....	1,252.49	
Constructing and restoring plank sidewalk.....	1,923.00	
Relaying sewer and water pipe.....	525.70	
Cleaning away debris from tunnel shaft.....	126.50	
Carried forward.....	\$ 24,796.57	\$2,184,504.70

DEPARTMENT OF PUBLIC WORKS.

Brought forward	\$ 24,796.57	\$2,184,504.70
Water Works shops: Labor and material.....	462.82	
Pay rolls.....	1,094.11	
Teaming	32.70	
Lumber and spikes.....	99.11	
Department of Supplies.....	2.35	
Advertising	5.25	
		<u>26,492.91</u>

OFFICE EXPENSE.

Pay rolls and services.....	\$ 7,476.73	
Printing, books, stationery, blue prints	344.61	
Examination of shield.....	50.00	
Instruments and repairs.....	150.27	
Department of Supplies.....	103.19	
Advertising	178.97	
		<u>8,298.77</u>

DEPOSITS FOR METER CONNECTIONS.

Refunds on deposits.....	117.66
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HYDRANT WRENCHES.

Refunds of deposits	30.00
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REFUND ERRONEOUS WATER TAX PAYMENTS.

Refund of taxes.....	10,400.57
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TOWN OF LAKE BONDS, 5 PER CENT.

Bonds redeemed.....	15,000.00
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WATER LOAN CERTIFICATES.

Certificates redeemed.....	501,000.00
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WATER LOAN INTEREST.

Interest on bonds and certificates.....	252,317.68
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SUNDRY DEPOSITS CREDITED TO WATER FUND.

Refund of deposits.....	70.85
Total expenditures Water Fund for 1901.....	\$2,998,233.14
Balance to credit of Water Fund January 1, 1902.....	1,102,555.65
Total expenditures and balance.....	<u>\$ 4,100,788.79</u>

SEWER FUND APPROPRIATION.

Amount appropriated for Sewer Office salaries.....	\$ 12,380.00	
Less transfer by City Council.....	3,500.00	
		\$8,880.00
Amount appropriated for Sewer Office expenses.....		500.00
Amount appropriated for House Drain salaries.....	\$ 34,024.00	
Less transfer by City Council.....	1,000.00	
		33,024.00
Amount appropriated for House Drain expense.....		1,000.00
Amount appropriated for Sixty-ninth Street Pump, new plant.....		9,733.70
Amount appropriated for Sixty-ninth Street Pump, old system, for January, February and March, 1901.....		2,018.20
Amount appropriated for Woodlawn Pump, salaries.....		5,175.00
Amount appropriated for Woodlawn Pump maintenance.....	\$ 9,400.00	
By transfer ordered by City Council.....	2,000.00	
By transfer ordered by City Council.....	800.00	
		12,200.00
Amount appropriated for Seventh Street Pump, salaries.....		3,735.00
Amount appropriated for Seventh Street Pump, maintenance.....	\$ 5,132.00	
Less transfer by City Council.....	\$1,000.00	
Less transfer by City Council.....	700.00	
	1,700.00	
		3,432.00
Amount appropriated for Seventy-third Street Pump, salaries.....		3,735.00
Amount appropriated for Seventy-third Street Pump, maintenance.....	\$ 4,000.00	
Less transfer by City Council.....	1,000.00	
		3,000.00
Amount appropriated for Kensington Pump, salaries.....		3,735.00
Amount appropriated for Kensington Pump, maintenance.....		3,000.00
Amount appropriated for Pullman Pump, salaries.....	\$ 3,735.00	
Less transfer by City Council.....	\$100.00	
Less transfer by City Council.....	700.00	
	800.00	
		2,935.00
Amount appropriated for Pullman Pump, maintenance.....	\$ 3,000.00	
By transfer ordered by City Council.....	700.00	
		3,700.00
Amount appropriated for cleaning sewers and catch basins, Districts No. 1, 2, 3 and 4.....	\$ 90,000.00	
By transfer ordered by City Council.....	4,500.00	
		94,500.00
Amount appropriated for repairing sewers and catch basins and for bench monuments and grade work.....	54,000.00	
By transfer ordered by City Council.....	2,000.00	
		56,000.00
Amount appropriated for restoration of streets.....	\$ 5,000.00	
Less transfer by City Council.....	1,000.00	
		4,000.00
Amounts appropriated for miscellaneous work for departments and public.....		35,000.00
Amount appropriated for Atchison, Topeka & Santa Fe Railroad Company for use of dump.....		150.10
Amount appropriated for repairing Fifty-third Street Sewer outfall.....	\$ 1,000.00	
Transfer by City Council.....	1,000.00	
Amount appropriated for improving Fifty-sixth Street Sewer outfall.....		1,500.00
Carried forward.....		\$ 290,959.00

Brought forward	\$ 290,959.00
Amount appropriated for operating air compressor, Rogers Park.....	3,500.00
Amount appropriated for Paul Dickinson for grates furnished Woodlawn Pump in 1899.....	58.92
Amount appropriated to purchase atlas of part of Austin annexed.....	290.00
Amount appropriated to bring present grade atlases to date	8,780.00
Amount appropriated for dredging slip "A".....	2,000.00
	<u>\$ 300,587.92</u>

EXPENDITURES.

SEWER COVER ACCOUNT.

Pay rolls.....	\$ 10,947.23
Water Works shops: Labor and material.....	9.47
Manhole and catch basin covers	604.00
Grates	106.25
Lumber	4,112.00
Band sawing	34.00
Junctions	42.00
Tank hoops.....	11.25
Cement	8.00
Bolts and washers.....	32.01
Department of Supplies.....	274.21
Paints.....	10.74
Coal	43.50
Kerosene.....	12.50
Tools	1.80
Testing scale.....	1.00
Teaming	1,959.79
	<u>18,209.75</u>

REPAIRING SEWERS.

Pay rolls.....	\$ 24,295.18
Water Works shops: Labor and material.....	9.83
Manhole and catch basin covers.....	2,068.55
Grates	24.00
Sewer pipe.....	1,034.26
Brick.....	1,539.50
Cement and sand.....	1,066.90
Lumber	277.62
Department of Supplies.....	50.89
Combination hydrant wrenches	9.00
Suction hose.....	21.75
Clamps	4.65
Wooden mauls and handles.....	18.30
Repairing picks, etc.....	15.00
Kerosene.....	3.25
Printing.....	13.50
South Park Commissioners: Filling trench.....	8.89
Services.....	4.00
Teaming	4,632.15
	<u>85,097.22</u>
Carried forward.....	\$ 53,806.97

BOOKKEEPER'S STATEMENT.

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Brought forward..... \$ 53,906.97

RESTORATION OF STREETS.

Repairing street openings.....\$	948.28	
Pay rolls.....	958.23	
Teaming.....	460.00	
		2,406.51

HOUSE DRAIN SALARIES.

Pay rolls..... 32,128.96

HOUSE DRAIN EXPENSE.

Department of Supplies.....\$	314.91	
Books, stationery and repairing atlas.....	160.53	
Premium on bonds.....	56.00	
Linoleum.....	44.95	
Advertising.....	10.50	
		586.89

SEWER OFFICE SALARIES.

Pay rolls..... 8,057.66

SEWER OFFICE EXPENSE.

Books, printing and stationery.....\$	106.97	
Department of Supplies.....	196.84	
Telephone service.....	171.11	
Office furniture.....	15.00	
Lettering transom.....	8.00	
Hardware and typewriter repairs.....	2.85	
Blue prints.....	2.23	
		500.00

SIXTY-NINTH STREET PUMP OPERATION.

(Old System.)

Pay rolls.....\$	973.73	
Coal.....	645.71	
Gas.....	39.20	
Oil and grease.....	11.90	
Department of Supplies.....	5.95	
Sash cord.....	1.05	
		1,677.54

SIXTY NINTH STREET PUMP MAINTENANCE.

(Old System.)

Fire clay.....\$	1.75	
Pipe fittings.....	1.08	
		2.83

SIXTY-NINTH STREET PUMP.

Unpaid salaries and bills in 1900.

Pay rolls.....\$	311.25	
Peoples Gas Light and Coke Company.....	23.20	
		334.45

Carried forward..... \$ 94,906.48

Brought forward \$ 98,996.83

SIXTY-NINTH STREET PUMP OPERATION.

(New Plant.)

Pay rolls.....	\$ 755.50	
Fire Department: Pumping.....	160.00	
Coal.....	240.50	
Gas.....	18.80	
Oil and grease.....	20.00	
Kerosene.....	1.78	
Department of Supplies.....	3.99	
Radiator.....	6.00	
Bellows.....	1.25	
		<u>1,907.82</u>

SIXTY-NINTH STREET PUMP MAINTENANCE.

(New Plant.)

Repairing motor.....	\$ 325.21	
Field coil.....	70.00	
Armature shields.....	19.55	
Pipe fittings and springs.....	1.58	
Lumber.....	6.50	
Window glass.....	2.80	
		<u>425.64</u>

SIXTY-NINTH STREET PUMP CONSTRUCTION.

(New Plant.)

Masonry: Ad. A. Anderson, contractor.....	\$ 1,150.00	
Centrifugal pump: Lawrence Mach. Co., contractor.....	1,767.00	
Generator and motor: General Electric Co., contractor...	2,691.70	
Cable.....	42.69	
Carbon brushes.....	27.00	
Manhole cover and frame.....	17.00	
Repairing motor chamber.....	20.00	
Blacksmithing.....	7.00	
Pipe fittings.....	5.27	
Lumber.....	10.17	
Coke.....	3.00	
Advertising.....	8.20	
		<u>5,749.03</u>

WOODLAWN PUMP OPERATION.

Pay rolls.....	\$ 5,142.09	
Coal.....	8,639.83	
Electric light.....	186.67	
Oil, grease and packing.....	118.45	
Waste.....	14.68	
Department of Supplies.....	25.55	
Steam hose.....	40.85	
Soap powder.....	10.68	
Kerosene.....	6.50	
Paints.....	2.95	
Ice.....	9.90	
Services.....	12.10	
		<u>14,209.23</u>

WOODLAWN PUMP MAINTENANCE.

Pump repairs.....	\$ 789.65	
Engine repairs.....	340.20	
Carried forward.....	\$ 1,129.85	\$ 120,588.55

BOOKKEEPER'S STATEMENT.

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Brought forward.....	\$ 1,129.85	\$ 120,588.55
Condenser repairs.....	773.85	
Gordon valves.....	301.25	
Rubber valves.....	81.00	
Valve hoods.....	789.25	
Valve studs.....	44.00	
Steamfitting.....	56.50	
Gauge glasses, clamps, etc.....	8.07	
Lumber.....	6.59	
Window glass.....	4.50	
Repairing flues.....	5.10	
Woodlawn Pump, unpaid bills, 1898, Paul Dickinson.....		3,144.96
		58.92

SEVENTIETH STREET PUMP OPERATION.

Pay rolls.....	\$ 3,735.00	
Coal.....	1,908.39	
Electric light.....	210.00	
Oil, packing, compound.....	426.36	
Oil pump.....	70.00	
Waste.....	87.78	
Department of Supplies.....	84.32	
Graphite, polish, etc.....	10.70	
Soap powder.....	26.95	
Kerosene.....	8.25	
Paints.....	2.95	
		6,469.70

SEVENTIETH STREET PUMP MAINTENANCE.

Pay rolls.....	\$ 116.46	
Water Works shops: Labor and material.....	27.08	
Pump repairs.....	60.20	
Refitting journals.....	81.90	
Covering boiler heads.....	69.00	
Steamfitting.....	187.70	
Pipe fitting.....	78.83	
Plumbing.....	12.00	
Valves.....	26.41	
Grates.....	10.75	
Department of Supplies.....	1.65	
Packing.....	12.00	
Lumber.....	6.06	
Pulley blocks.....	12.50	
Steam hose.....	42.00	
Window glass.....	26.00	
Tools and hardware.....	7.08	
Services.....	1.24	
		697.30

SEVENTY-THIRD STREET PUMP OPERATION.

Pay rolls.....	\$ 3,732.50	
Coal.....	1,560.34	
Gas.....	89.40	
Oil and packing.....	74.67	
Waste.....	7.59	
Department of Supplies.....	10.95	
Speed indicator.....	2.00	
Polish.....	2.00	
Printing and stationery.....	17.50	
Ice.....	9.90	
		5,510.89
Carried forward.....		\$ 136,470.82

Brought forward..... \$ 136,470.32

SEVENTY-THIRD STREET PUMP MAINTENANCE.

Pay rolls	\$ 501.40
Boiler repairs	44.46
Engine repairs	70.75
Pump repairs	69.80
Valve stem	19.10
Iron beams	14.43
Packing	5.05
Steamfitting	27.40
Brick	21.00
Lumber	5.12
Oilers, hardware, etc	8.87
Painting and calcimining	250.00
Extending sewer	187.37

1,174.74

KENSINGTON PUMP OPERATION.

Pay rolls	\$ 3,682.75
Coal	1,683.00
Electric light	180.00
Oil, packing, compound	142.83
Waste	7.48
Department of Supplies	21.96
Tools, hardware, etc	11.80
Office chair	4.28
Soap powder	11.10
Flue cleaner	3.06
Mats	2.50
Ice	9.20

5,759.36

KENSINGTON PUMP MAINTENANCE.

Pay rolls	\$ 529.15
Pump repairs	129.35
Valve parts	47.80
Covering steampipes	28.00
Steamfitting	94.60
Pipe fittings	48.04
Tank	25.00
Tools and hardware	13.50
Window glass	10.40
Paints	2.55

923.39

PULLMAN PUMP OPERATION.

Pay rolls	\$ 2,449.59
Coal	1,916.72
Electric light	134.15
Oil, packing, compound	206.91
Oil tank and oilers	35.70
Waste	11.27
Department of Supplies	57.42
Tools, hardware, etc	10.44
Office chair and clock	6.93
Barrow	9.25
Flue blower and cleaner	9.50
Leather	10.80

Carried forward..... \$ 4,858.68 \$ 144,327.81

BOOKKEEPER'S STATEMENT.

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Brought forward	\$ 4,854.68	\$ 144,327.81
Soap powder	7.25	
Kerosene and tank	7.25	
Paints	5.45	
Melting ladle	4.00	
		4,882.63

PULLMAN PUMP MAINTENANCE.

Rubber hoods for pumps	\$ 346.50	
Valve parts	8.98	
Steamfitting	150.00	
Pipe fittings	71.78	
Roof repairs	214.00	
Department of Supplies	3.10	
Tools, hardware, babbit metal	7.90	
Lumber	16.42	
Leather	12.00	
Paints	9.25	
Pulley blocks and rope	11.98	
Steam hose	7.02	
Replacing split tee at 100th street	25.74	
Placing discharge pipe, labor and material	360.85	
Repairing discharge pipe	21.25	
		1,266.90

CLEANING SEWERS, FIRST DISTRICT.

Pay rolls	\$ 28,166.18	
Teaming	7,914.77	
Water Works shops: Labor and material	42.84	
Wagon repairs	51.00	
Gear wheels, etc., for derrick	46.18	
Department of Supplies	158.83	
Lumber	24.24	
Hooks and keys	16.00	
Inlet bars	27.00	
Sewer rods	26.47	
Repairing rods	10.82	
Wood mauls and handles	18.80	
Ladder rungs	10.00	
Chain and chain tongs	11.75	
Pipe fittings	8.74	
Coal	40.29	
Salt	3.50	
Advertising	7.45	
		36,622.89

CLEANING SEWERS, SECOND DISTRICT.

Pay rolls	\$ 22,051.42	
Teaming	2,718.37	
Gear wheels, etc., for derrick	46.18	
Department of Supplies	27.10	
Oak lath	30.00	
Spoon shovels	16.85	
Inlet rods	20.00	
Sheaves	5.76	
Pulley parts	7.00	
Rubber hose	120.00	
Carried forward	\$ 25,042.68	\$ 187,100.23

Brought forward	\$ 25,042.68	\$ 187,100.23
Repairing iron drums	5.00	
Coal	7.50	
Kerosene	3.00	
Ground rent	120.00	
Telephone service	183.89	
Services	29.25	
		25,341.32

CLEANING SEWERS, THIRD DISTRICT.

Pay rolls	\$ 13,154.21	
Teaming	2,469.90	
Gear wheels, etc., for derrick	46.18	
Department of Supplies	6.50	
Lath	20.00	
Spoon shovels	16.36	
Inlet bars	4.50	
Wooden mauls and handles	15.50	
Pulley parts	7.00	
Rope	10.08	
Repairing tools	17.50	
Electric light	18.38	
		15,786.11

CLEANING SEWERS, FOURTH DISTRICT.

Pay rolls	\$ 11,107.19	
Teaming	1,795.15	
Gear wheels, etc., for derrick	46.18	
Department of Supplies	17.72	
Pipe fittings	12.12	
Water tap and pipe	40.00	
Pulley parts	7.00	
Wooden mauls and handles	15.00	
Rope	2.00	
Bolts	1.59	
Repairing tools	16.50	
Repairing scoops	4.00	
Stovepipe .....	.52	
Ground rent	175.00	
Coal	11.25	
		13,251.22

BENCH MONUMENTS.

Pay rolls	\$ 2,653.41	
Blue prints	2.73	
Repairing level and tools	2.13	
		2,658.27

ROGERS PARK PUMP.

Operating air compressor	\$ 3,281.27	
Fire Department: Pumping	60.00	
Water Works shop: Labor and material	9.87	
Packing	8.99	
Glass and charts for pressure gauge	5.00	
Recording pens	1.20	
Belting	2.30	
Blue prints20	
		3,368.83
Carried forward		\$ 247,505.48

BOOKKEEPER'S STATEMENT.

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Brought forward \$ 247,505.48

USE OF DUMPS.

Atchison, Topeka & Santa Fe R'y Co., 1561 loads..... 156.10

ADJUSTING SEWERS.

Pay rolls\$ 1,540.81
Screw wheel with shield 450.00
2,030.81

IMPROVING FIFTY-SIXTH STREET SEWER OUTFALL.

Pay rolls\$ 1,297.14
Department of Supplies..... 17.08
Lumber 159.60
Suction hose..... 24.20
Gasket 2.00
1,500.00

PURCHASE OF ATLAS OF AUSTIN.

Drain atlas 280.00

TO BRING GRADE ATLASES TO DATE.

Pay rolls 2,000.85

DREDGING SLIP A.

Lydon & Drews Co., contractors 1,939.56
Total expenditures sewer fund \$255,411.80
Transfer to general fund 45,176.12
Total \$300,587.92

APPROPRIATION FUND.

Amount appropriated for maintenance of dumps \$43,620.00
Amount appropriated for removal of sunken vessels... 1,500.00
Amount appropriated for removal of city docks 10,000.00
Amount appropriated for engineering and inspection of elevated railways, track elevation, etc..... 10,000.00
Amount appropriated for restoration of streets and paving Haymarket Square (city's share) 73,000.00
Amount appropriated for rent of yards..... 4,500.00
Amount appropriated for Chicago harbor salaries..... 19,400.00
Amount appropriated for bridges and viaducts, repairs and operation \$100,000.00
By transfer ordered by City Council..... 14,000.00
114,000.00
Amount appropriated for repairs to viaducts to be maintained by railroads..... 50,000.00
Amount appropriated for ward superintendents' salaries 40,000.00
Amount appropriated for temporary playgrounds..... 1,000.00
Amount appropriated for construction of bridges at E. Division street, Clybourn place, and Ninety fifth st. \$300,000.00
Less reduction by City Council 15,000.00
285,000.00
Carried forward \$ 665,020.00

Brought forward	\$ 685,020.00
Amount appropriated for construction of bridges at W. Division st., North avenue, Archer avenue and Twenty-second street.....	\$50,000.00
Le-s reduction by City Council.....	3,000.00
	47,000.00
Amount appropriated for rebuilding Canal st. viaduct..	22,500.00
Amount appropriated for Canal street pontoon bridge..	5,000.00
Amount appropriated for bridge-tenders' salaries	92,842.50
Amount appropriated for City Hall maintenance and operation, including salaries.....	70,604.58
Amount appropriated for alterations in office of the Cor- poration Counsel	7,500.00
Amount appropriated for City Hall, unpaid bills of 1899	248.42
Amount appropriated for widening Lake street.....	7,688.00
Amount appropriated for Ellis park, Aldine square and Douglas Monument park	3,000.00
Amount appropriated for Washington square, Green Bay and Oak parks.....	2,500.00
Amount appropriated for Lakewood and Kedzie parks.	300.00
Amount appropriated for Bickerdike, Congress, Irving, Gross, Jefferson, DeKalb, Norwood, Dauphin and East End parks.....	5,700.00
Amount appropriated for improving Normal park.....	1,000.00
Amount appropriated for improving Fernwood park...	400.00
Amount appropriated for improving Seventy-second street park.....	500.00
Amount appropriated for breakwater at East End park.	1,500.00
Amount appropriated for improving and maintaining Holstein park	1,500.00
Amount appropriated for Triangular parks, Twenty-first ward	300.00
Amount appropriated for Street Department office salaries	31,666.00
Amount appropriated for Street Department office expense	1,500.00
Amount appropriated for Map Department office salaries	4,718.00
Amount appropriated for Map Department office expense	1,100.00
Amount appropriated for Map Department unpaid bills of 1899.....	38.74
Amount appropriated for City Engineer's office salaries	2,605.00
Amount appropriated for City Engineer's office expense	250.00
Amount appropriated for Commissioner's office salaries	2,374.00
Amount appropriated for Commissioner's office expense	350.00
Amount appropriated for garbage crematory.....	25,000.00
Amount appropriated for corporation inspectors' salaries	40,000.00
Amount appropriated for steam roller engineer and watchman's salaries	1,630.00
Amount appropriated for repairing Western avenue....	1,000.00
Amount appropriated for repairing Vincennes avenue..	1,000.00
Amount appropriated for repairing Milwaukee avenue..	1,000.00
Amount appropriated for repairing Lincoln avenue....	1,000.00
Amount appropriated for repairing Grand avenue.....	1,000.00
Amount appropriated for repairing North Clark street.	1,000.00
Amount appropriated for cleaning ditches and crowning unimproved streets in Fifth ward.....	500.00
Amount appropriated for cleaning ditches and crown- ing unimproved streets in Twenty-ninth ward.....	2,000.00
Carried forward.....	\$1,054,785.24

Brought forward		\$1,054,785.24
Amount appropriated for cleaning ditches and crowning unimproved streets in Eighth ward.....		1,000.00
Amount appropriated for cleaning ditches and crowning unimproved streets in Twenty-seventh ward.....		2,000.00
Amount appropriated for cleaning ditches and crowning unimproved streets in Thirty-first ward.....		1,000.00
Amount appropriated for cleaning ditches and crowning unimproved streets in Thirty-second ward.....		1,000.00
Amount appropriated for removal of snow in First ward.....		40,000.00
Amount appropriated for First ward.....		86,400.00
Amount appropriated for Second ward.....		32,640.00
Amount appropriated for Third ward.....		32,640.00
Amount appropriated for Fourth ward.....		25,920.00
Amount appropriated for Fifth ward.....		25,920.00
Amount appropriated for Sixth ward.....	\$36,384.00	
Transferred from contingent fund	1,500.00	
		37,884.00
Amount appropriated for Seventh ward.....		87,920.00
Amount appropriated for Eighth ward.....		26,160.00
Amount appropriated for Ninth ward.....		25,920.00
Amount appropriated for Tenth ward.....		23,040.00
Amount appropriated for Eleventh ward.....		22,080.00
Amount appropriated for Twelfth ward.....		24,000.00
Amount appropriated for Thirteenth ward.....	22,080.00	
By transfer from contingent fund.....	1,500.00	
		23,580.00
Amount appropriated for Fourteenth ward.....		30,720.00
Amount appropriated for Fifteenth ward.....		25,920.00
Amount appropriated for Sixteenth ward.....		29,760.00
Amount appropriated for Seventeenth ward.....	29,760.00	
By transfer from contingent fund.....	2,000.00	
		31,760.00
Amount appropriated for Eighteenth ward.....		38,400.00
Amount appropriated for Nineteenth ward.....		34,560.00
Amount appropriated for Twentieth ward.....		33,408.00
Amount appropriated for Twenty-first ward.....	36,480.00	
By transfer from contingent fund.....	2,500.00	
		38,980.00
Amount appropriated for Twenty-second ward.....	30,720.00	
By transfer from contingent fund.....	2,500.00	
		33,220.00
Amount appropriated for Twenty-third ward.....		25,920.00
Amount appropriated for Twenty-fourth ward.....		24,960.00
Amount appropriated for Twenty-fifth ward.....		28,800.00
Amount appropriated for Twenty-sixth ward.....		28,800.00
Amount appropriated for Twenty-seventh ward.....		21,600.00
Amount appropriated for Twenty-eighth ward.....		25,920.00
Amount appropriated for Twenty-ninth ward.....		30,240.00
Amount appropriated for Thirtieth ward.....		30,240.00
Amount appropriated for Thirty-first ward.....		25,920.00
Amount appropriated for Thirty-second ward.....		30,240.00
Amount appropriated for Thirty-third ward.....		26,160.00
Amount appropriated for Thirty-fourth ward.....		20,064.00
Amount appropriated for Thirty-fifth ward.....		17,184.00
		\$2,156,665.24
Less transfer back to contingent fund.....		10,000.00
Total.....		\$2,146,665.24

APPROPRIATION FUND EXPENDITURES.

WARDS.	Removal of Garbage.	Cleaning Streets.	Repairing Streets.	Repairing Sidewalks.	Unimprov'd Streets.	TOTALS.
First	\$16,004.45	\$62,766.70	\$7,121.88	\$502.51	.....	\$86,395.54
Second	20,623.53	10,163.19	1,234.89	555.14	63.25	32,640.00
Third	19,025.64	10,368.07	2,280.07	622.14	118.00	32,413.92
Fourth	10,538.80	10,597.31	2,540.01	1,882.64	.....	25,518.76
Fifth	9,333.09	7,146.28	2,210.12	4,193.29	2,030.02	24,912.80
Sixth	24,343.96	10,558.72	2,330.06	188.61	.....	37,721.35
Seventh	18,993.39	12,819.53	3,625.31	1,062.41	796.56	37,296.20
Eighth	7,288.03	5,249.82	1,157.31	3,274.22	7,897.17	24,866.55
Ninth	13,381.00	8,981.66	1,561.56	1,592.80	.....	25,516.52
Tenth	10,890.64	7,707.43	1,729.60	1,338.89	305.25	22,571.81
Eleventh	10,781.80	7,221.63	1,954.82	1,269.38	381.00	21,608.63
Twelfth	10,344.47	4,558.07	2,900.53	2,767.04	1,358.75	21,928.86
Thirteenth	14,898.58	5,355.24	1,742.59	1,323.01	52.50	23,371.92
Fourteenth	18,605.35	8,443.75	2,279.01	1,228.32	109.87	30,666.30
Fifteenth	12,491.65	8,790.31	2,268.98	1,741.30	177.50	25,469.74
Sixteenth	12,031.30	10,073.32	3,858.16	1,506.47	140.75	27,610.00
Seventeenth	18,278.67	11,319.30	679.85	1,174.27	184.62	31,636.41
Eighteenth	15,807.26	19,606.95	2,326.22	583.66	71.00	38,395.09
Nineteenth	20,504.60	10,704.99	1,337.53	1,950.36	58.50	34,555.98
Twentieth	22,121.93	9,507.05	1,276.69	465.54	33.25	33,404.46
Twenty-first	22,516.78	14,855.16	1,861.53	242.50	.....	38,975.97
Twenty-second	17,633.67	13,472.05	1,236.31	736.49	127.25	33,204.77
Twenty-third	14,432.19	9,048.82	1,476.46	402.22	62.15	25,421.84
Twenty-fourth	11,641.10	8,584.01	2,718.67	882.86	453.90	24,280.54
Twenty-fifth	17,094.57	7,981.70	2,895.47	451.98	.....	28,423.72
Twenty-sixth	10,118.77	9,118.47	4,145.05	1,757.94	1,820.38	26,960.61
Twenty-seventh	6,443.16	4,905.88	1,450.89	2,019.58	6,777.39	21,596.90
Twenty-eighth	10,785.72	7,760.09	2,537.62	2,302.15	810.50	23,696.08
Twenty-ninth	8,526.12	8,858.73	3,381.14	2,561.81	7,297.80	30,125.60
Thirtieth	13,681.61	12,177.61	2,462.29	1,822.77	88.25	30,182.53
Thirty-first	13,022.55	7,384.64	1,437.64	1,396.76	2,319.73	25,661.33
Thirty-second	14,429.97	10,787.98	1,430.01	1,833.26	1,757.76	30,238.98
Thirty-third	10,874.22	3,976.42	807.04	1,982.59	6,438.88	24,078.65
Thirty-fourth	6,114.08	5,492.33	2,378.38	2,558.95	1,419.68	17,963.37
Thirty-fifth	6,699.79	4,558.68	1,712.55	1,951.91	1,487.71	16,410.59
Total	\$180,302.39	\$370,200.84	\$78,344.94	\$52,725.27	\$14,088.87	\$1,035,662.31

STEAM ROLLER SALARIES.

Pay rolls \$1,132.13

CORPORATION ENGINEERING AND INSPECTION—ELEVATED
RAILWAYS, TRACK ELEVATION, ETC.

Pay rolls and services..... 1,902.85

WARD SUPERINTENDENTS' SALARIES.

Pay rolls 48,422.29

Carried forward..... \$1,087,119.58

Brought forward \$1,087,119.58

PUBLIC BUILDING OPERATION.

Pay rolls.....	\$ 2,214.25	
Coal.....	18,919.29	
Electric current furnished.....	1,729.68	
Electrical supplies.....	400.58	
Cylinder oil, boiler compound, etc.....	725.13	
Waste, mops and wringers.....	228.88	
Paints, oils, etc.....	114.45	
Hardware.....	30.30	
Soap powder, disinfectant, etc.....	556.44	
Sundry supplies.....	360.96	
Towels, etc.....	159.03	
Ice.....	510.91	
Radiators.....	112.39	
Cleaning and repairing carpets, etc.....	27.62	
Awnings and putting up awnings.....	121.50	
Draping City Hall.....	250.00	
Calceining.....	200.00	
		26,660.86

PUBLIC BUILDING MAINTENANCE.

Pay rolls.....	661.36	
Elevator repairs.....	1,782.17	
Boiler repairs.....	1,108.70	
Dynamo repairs.....	86.75	
Pump repairs.....	90.06	
Repairing tanks.....	91.50	
Carpenter work, doors, etc.....	212.25	
Pointing up crack in building.....	249.00	
Sundry repairs and material.....	354.26	
Plumbing.....	832.62	
Pipe fittings and steamfitting.....	791.89	
Calceining.....	425.00	
Resetting tile.....	73.50	
Electrical supplies.....	471.32	
Hardware.....	345.94	
Lumber.....	229.98	
Brick, fire-clay, sand, etc.....	171.90	
Seals.....	45.00	
		8,053.20

JANITORS' SALARIES.

Pay rolls.....	\$ 35,020.41	
Services.....	14.52	
		35,034.93

PUBLIC BUILDING UNPAID BILLS, 1899.

Carl Anderson Co.....	218.42
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ALTERATIONS FOR CORPORATION COUNSEL'S OFFICE.

Calceining.....	\$ 138.00	
Partitions.....	181.60	
Luxfer prism forilluxes.....	250.00	
Bookcases and shelves.....	865.00	
Carried forward.....	\$ 1,334.60	\$1,157,116.99

DEPARTMENT OF PUBLIC WORKS.

Brought forward	\$	1,734.00	\$1,157,116.99
Office furniture and carpets.....		487.86	
Electric lamps, fans, etc.....		32.50	
Gate and lock.....		6.00	
Locks and keys.....		19.45	
Shades.....		2.75	
Department of Supplies: Cuspidors.....		2.00	
Lettering doors.....		9.00	
Adjusting vault combinations.....		8.50	
			2,302.15

YARD RENT.

Rents	\$	4,404.91	
Services for improvements		84.00	
			4,488.91

WASHINGTON SQUARE.

Pay rolls.....	\$	807.55	
Seeds and plants.....		93.70	
Signs.....		5.10	
Repairing lawn mower.....		3.26	
Sperm oil.....		.90	
Department of Supplies.....		29.20	
Plumbing.....		47.60	
Advertising.....		5.50	
			902.81

ALDINE SQUARE.

Pay rolls.....	\$	736.92	
Seeds and plants.....		32.95	
Signs.....		3.40	
Repairing lawn mower.....		3.26	
Sperm oil.....		.90	
Department of Supplies.....		21.67	
Crushed stone.....		2.03	
Plumbing.....		17.80	
			818.93

DOUGLAS MONUMENT SQUARE.

Pay rolls.....	\$	764.25	
Seeds and plants.....		98.03	
Signs.....		3.40	
Repairing lawn mower.....		3.26	
Sperm oil.....		.90	
Department of Supplies.....		1.50	
Crushed stone.....		6.75	
Plumbing.....		13.25	
Black soil.....		6.00	
			897.34

ELLS PARK.

Pay rolls.....	\$	720.43	
Seeds, plants and trees.....		175.07	
Signs.....		5.10	
Carried forward	\$	900.60	\$1,166,617.13

BOOKKEEPER'S STATEMENT.

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Brought forward.....	\$	900.60	\$1,166,617.13
Black soil		19.80	
Screenings		5.40	
Crushed stone.....		6.75	
Repairing lawn mower.....		4.90	
Sperm oil .....		.30	
Department of Supplies.....		18.95	
			957.30

BICKERDIKE SQUARE.

Pay rolls	\$	331.25	
Seeds, plants and trees.....		97.00	
Signs		5.10	
Benches.....		36.00	
Chnders		22.50	
Department of Supplies.....		4.10	
			495.95

FERNWOOD PARK.

Pay rolls	\$	279.58	
Seeds and plants.....		21.88	
			301.46

JEFFERSON PARK.

Pay rolls	\$	523.75	
Seeds		22.00	
Repairing lawn mower		3.16	
Signs		5.10	
Department of Supplies		18.50	
			572.61

TRIANGULAR PARKS, TWENTY FIRST WARD.

Pay rolls			265.00
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NORMAL PARK.

Pay rolls	\$	383.36	
Seeds and plants		19.00	
Black soil		166.00	
Repairing lawn mower		3.62	
Sprinklers		3.42	
Signs		5.10	
Department of Supplies		5.89	
Lumber.....		.92	
			575.31

SEVENTY SECOND STREET PARK.

Pay rolls	\$	87.43	
Seeds		10.00	
Black soil		291.25	
Signs.....		5.10	
Department of Supplies.....		24.22	
Plumbing		11.05	
			412.05

Carried forward.....			\$1,170,556.81
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Brought forward \$1,170,556.81

IRVING PARK.

Pay rolls	\$ 7.00	
Plants	105.25	
Black soil	150.00	
Pump	11.90	
Pump repairs	8.13	
Plumbing	30.28	
		312.56

EAST END PARK.

Pay rolls	84.75
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HOLSTEIN PARK.

Pay rolls	\$ 278.50	
Seeds and trees	422.50	
Black soil	354.00	
Department of Supplies	24.26	
Bureau of Water: Inserting ferrules	21.00	
Pipe and street washers	164.08	
Pipe fittings	11.10	
Lead pipe	31.03	
		1,306.47

GREEN BAY PARK.

Pay rolls	\$ 253.64	
Plants	57.85	
Paint	4.00	
		315.49

OAK PARK.

Pay rolls	\$ 286.33	
Trees and plants	100.50	
		386.83

GROSS PARK.

Pay rolls	\$ 347.75	
Seeds, plants and trees	112.00	
Black soil	25.00	
Signs	3.40	
Miscellaneous supplies .....	.85	
		490.00

CONGRESS PARK.

Pay rolls	\$ 152.50	
Trees and plants	268.00	
Black soil	123.49	
Department of Supplies	18.30	
Plumbing	31.45	
		593.74

Carried forward \$1,173,995.65

BOOKKEEPER'S STATEMENT.

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Brought forward \$1,173,995 65

LAKEWOOD PARK.

Pay rolls.....	\$	5 00	
Services.....		82.75	
Plants.....		50.00	
Department of Supplies.....		8.00	145.75

NORWOOD PARK.

Pay rolls.....	\$	395.74	
Plants.....		44.65	
Repairing lawn mower.....		3.26	443 65

DAUPHIN PARK.

Pay rolls.....	\$	3.00	
Trees and plants.....		315.00	318.00

DE KALB SQUARE.

Pay rolls.....	\$	148.50	
Trees and plants.....		116.02	264 52

KEDZIE PARK.

Pay rolls.....	\$	46 50	
Trees and soil.....		8 00	54 50

CITY ENGINEER'S OFFICE SALARIES.

Pay rolls.....		2,005 00
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CITY ENGINEER'S OFFICE EXPENSE.

Printing, stationery, drawing material.....	\$	135 47	
Blue prints.....		9 74	
Department of Supplies.....		96 80	
Hardware.....		3 44	
Typewriter repairs.....		1 25	
Paints, etc.....		1 30	
Time service.....		2 00	250.00

COMMISSIONER'S OFFICE SALARIES.

Pay rolls.....		2,374 00
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COMMISSIONER'S OFFICE EXPENSE.

Pay rolls.....	\$	68 37	
Printing, books and stationery.....		51 85	
Department of Supplies.....		203.78	
Horse board and shoeing.....		21 00	
Advertising.....		4 00	350.00

Carried forward..... \$1,180,801.07

Brought forward \$1,180,801.07

BUREAU OF STREETS OFFICE SALARIES.

Pay rolls 18,452.94

BUREAU OF STREETS OFFICE EXPENSE.

Printing, books and stationery.....	\$ 658.88	
Office furniture and linoleum.....	270.90	
Office railing.....	47.00	
Department of Supplies.....	385.35	
Telephone service.....	125.57	
Premium on bonds.....	4.00	
Advertising.....	8.30	
		1,500.00

BUREAU OF MAPS OFFICE SALARIES.

Pay rolls 4,055.01

BUREAU OF MAPS OFFICE EXPENSE.

Printing, stationery and drawing material.....	\$ 326.30	
Department of Supplies.....	76.10	
Premium on bonds.....	4.00	
		406.40

BUREAU OF MAPS UNPAID BILLS OF 1899.

Rand, McNally & Co., etc 38.74

RESTORATION OF STREETS AND FOR PAVING HAYMARKET SQUARE (City's share).

Pay rolls.....	\$ 9,612.17	
Repairing pavement.....	4,694.46	
Water Works shops: Labor and material.....	87.98	
Department of Supplies.....	195.16	
Oil, etc., for steam roller.....	22.25	
Coal.....	145.06	
Steam roller repairs.....	4.70	
Pip and fittings.....	4.70	
Paint.....	2.95	
Paving Haymarket Square.....	20,000.00	
		34,799.43

CHICAGO HARBOR SALARIES.

Pay rolls..... 19,064.68

REMOVAL OF HARBOR OBSTRUCTIONS.

Pay rolls (survey of Chicago river).....	\$ 242.25	
Printing dredging reports.....	4.50	
		246.75

Carried forward \$1,259,865.03

BOOKKEEPER'S STATEMENT.

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Brought forward \$1,259,365.02

RENEWAL OF CITY DOCKS.

Construction: Fitz Simons & Connell.....	\$ 3,290.87	
Pay rolls.....	67.74	
Dock repairs.....	57.01	
Printing.....	3.00	
Blue prints.....	1.22	
Repairing tape.....	.70	
Advertising.....	6.70	
		3,426.74

STREET OPENING AND OBSTRUCTION INSPECTORS' SALARIES.

Pay rolls.....	7,875.00
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BRIDGE AND VIADUCT REPAIRS.

Pay rolls.....	\$ 50,590.29	
Repairing pile protections and furnishing and driving piles.....	25,804.97	
Machinery repairs.....	1,957.36	
Blacksmithing.....	145.29	
Steamfitting.....	102.75	
Plumbing.....	81.91	
Teaming.....	860.86	
Lumber.....	14,800.38	
Steel, iron, bolts, etc.....	1,258.95	
Hoisting cables.....	1,099.00	
Pilers.....	285.00	
Sundry material.....	1,179.22	
Oil, packing, etc.....	262.50	
Waste, rope, etc.....	356.56	
Paints.....	160.46	
Hardware.....	118.55	
Paving blocks.....	115.60	
Tools.....	94.69	
Grating.....	66.19	
Lamps and sockets.....	130.50	
Ash chutes.....	68.00	
Printing, stationery, etc.....	39.10	
Use of scow.....	100.00	
Telephone service.....	86.88	
Advertising.....	41.95	
		90,814.86

BRIDGE OPERATION.

Electric light and current.....	\$ 7,649.35	
Coal.....	6,993.78	
Gas.....	28.60	
Oil, etc.....	239.40	
Lamps and chimneys.....	25.65	
Rubber hose.....	3.50	
Blue prints and photos.....	4.50	
Stoves and stovepipe.....	32.89	
Printing.....	18.75	
Tug service.....	10.00	
Thawing by fireboat at Taylor street bridge.....	30.00	
Advertising.....	5.10	
		15,035.42
Carried forward.....		\$1,385,517.04

Brought forward \$1,385,517.04

REBUILDING CANAL STREET VIADUCT.

Refunded to Chicago, Burlington & Quincy and Chicago
& North-Western Railway Companies..... 22,500.00

CORPORATION INSPECTOR'S SALARIES.

Pay rolls 24,553.69

BRIDGE TENDERS' SALARIES.

Pay rolls\$ 86,292.83
Boats..... 116.00
86,408.83

REPAIRS OF VIADUCTS

To be maintained by railroad companies.

Pay rolls\$ 2,790.63
Renewing handrails on North Halsted and Chicago ave-
nue viaducts..... 4,386.50
Lumber 3,095.98
Cedar blocks 18.60
Crushed stone..... 23.09
Tar 35.02
Pipe and fittings..... 26.98
Sundries..... 5.05
Advertising 5.65
10,387.50

REMOVAL OF SNOW IN FIRST WARD.

Pay rolls 40,000.00

DUMPS.

Pay rolls\$ 41,160.57
Pumping out clayholes..... 400.00
Water Works shops: Labor and material..... 6.85
Disinfectants 399.38
Lumber 628.96
Department of Supplies: Sundry supplies..... 473.87
Spikes..... 85.75
Coal 300.25
Pump fittings..... 6.00
Oil 4.75
Tool repairs..... 24.75
Printing and stationery 160.75
Premium on bonds..... 4.00
Advertising 15.12
43,620.00

GARBAGE DESTROYING PLANT.

Carpenter work: A. Zellweger, contractor.....\$ 1,508.00
Advertising..... 255.82
1,763.82

Carried forward \$1,614,750.88

Brought forward \$1,614,750 88

NINETY FIFTH STREET BRIDGE CONSTRUCTION.

Removing old center pier, etc., and superstructure of new bridge	\$ 72,179 01	
Pay rolls.....	5,495.64	
Lumber.....	15.45	
Sundry supplies.....	8.08	
Inserting ferrules.....	5.40	
Drawing material and blue prints.....	10.65	
Repairing level and tape	2.75	
Coal.....	35.00	
		77,751.08

EAST DIVISION STREET BRIDGE CONSTRUCTION.

Removing old pier, etc., and superstructure of new bridge. \$	50,641.94	
Pay rolls.....	7,769.21	
Pile driving.....	340.50	
Rent of dock.....	400.00	
Lumber.....	156.16	
Supply pipe.....	184.68	
Sundry material.....	66.05	
Coal.....	61.48	
Water.....	13.00	
Drawing material and blue prints.....	8.05	
		59,641.02

CLYBOURN PLACE BRIDGE CONSTRUCTION.

Substructure: Fitz Simons & Connell..... \$	68,910.74	
Superstructure: American Bridge Co.....	42,923.06	
Pay rolls.....	5,981.89	
Inspecting Steel.....	54.58	
Lumber.....	96.04	
Drawing material and blue prints.....	31.75	
Sundry material.....	28.63	
Repairing transit.....	28.75	
Sash and blinds.....	20.25	
Hardware.....	14.25	
Steel tape.....	6.37	
Advertising.....	11.06	
		118,097.67

WEST DIVISION STREET BRIDGE CONSTRUCTION.

Pay rolls..... \$	4,454.02	
Consulting Engineer, services.....	127.50	
Specifications.....	70.50	
Steamfitting.....	24.00	
Coal.....	18.75	
Lumber.....	15.46	
Drawing material, blue prints.....	16.13	
Sundry material.....	7.99	
Advertising.....	6.75	
		\$4,742.30

ARCHER AVENUE BRIDGE CONSTRUCTION.

Pay rolls..... \$	109.50	
Consulting Engineer, services.....	127.50	
Pipe fittings, etc.....	24.10	
Sundry material.....	7.71	
		268.81
Carried forward.....		\$1,873,252.00

Brought forward \$1,875,252.66

TWENTY-SECOND STREET BRIDGE CONSTRUCTION.

Consulting Engineer, services..... 127.50

NORTH AVENUE BRIDGE CONSTRUCTION.

Pay rolls	\$ 467.37	
Consulting Engineer, services.....	127.50	
		<u>594.87</u>

CANAL STREET PONTOON BRIDGE.

Pay rolls	\$ 2,529.40	
Repairing pile protection.....	882.43	
Lumber	714.15	
Chain	30.45	
Sundry material.....	13.44	
Changing clamps.....	8.00	
Premium on bonds.....	20.00	
Scow.....	425.00	
		<u>4,622.87</u>
Total expenditures Appropriation Fund.....		\$ 1,880,597.90
Transfer to General Fund.....		266,067.34
Total.....		<u>\$ 2,146,665.24</u>

TOTAL EXPENDITURES PUBLIC WORKS DEPARTMENT, 1901.

Water Fund.....	\$2,098,233.14	
Sewer Fund.....	255,411.80	
Appropriation Fund.....	1,880,597.90	
		<u>\$5,134,242.84</u>

SPECIAL DEPOSIT FUND.

Credit balance January 1, 1901.....	\$ 45,808.75	
RECEIPTS.		
Street permit depositors.....	51,553.77	
Permits to open alleys.....	3,740.00	
Corporation account	1,354.00	
Badge account.....	120.00	
Deposits for sewer work.....	4,056.75	
Total receipts.....		<u>\$ 106,833.27</u>
EXPENDITURES.		
STREET PERMIT DEPOSITORS -		
Rebates and work done.....	\$47,090.27	
PERMITS TO OPEN ALLEYS—		
Rebates and work done.....	3,060.00	
CORPORATION ACCOUNT—		
Rebates and inspection	595.00	
BADGE ACCOUNT—		
Refunds.....	181.00	
DEPOSITS FOR SEWER WORK—		
Rebates and work done.....	3,799.56	
Total expenditures.....	54,725.83	
Credit balance January 1, 1902.....	51,907.44	
Total expenditures and balance.....		<u>\$ 106,833.27</u>

GENERAL FUND DEPARTMENT PUBLIC WORKS EARNINGS.

RECEIPTS.

Received from rents and compensations, No. 8.....	\$ 7,665.42	
Received from map office fees.....	599.46	
Received from dredge and dock permits.....	5,153.80	
Received from house drains.....	18,694.50	
Received from sidewalk certificates.....	489.50	
Received from dumps.....	2,803.00	
Received from house moving permits.....	1,498.00	
Received from earnings account inspection.....	25,782.10	
Received from bridge damages.....	13,699.97	
Received from railroad companies for repairing viaducts.....	4,346.50	
Received from restoration of streets.....	21,034.41	
Received from manure vault permits.....	211.00	
Received from scale permits.....	51.00	
Received from sewer earnings, account department and private work.....	4,258.77	
Received from sale of old material.....	5,812.71	
Total receipts.....		\$ 112,485.14

SPECIAL DEPOSIT FUND WATER DEPARTMENT.

Credit balance January 1, 1901.....	\$ 3,349.00
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RECEIPTS.

Deposits for meter connections.....	13,043.34
Deposits for meters.....	6,219.50
Deposits for use of water.....	5,309.97
Deposits for hydrant wrenches.....	720.00
Miscellaneous deposits.....	230.50
	\$ 28,572.31

EXPENDITURES.

METER CONNECTIONS--	
Rebates and work done.....	\$ 10,916.60
METER DEPOSITS	
Refunds.....	6,219.50
USE OF WATER--	
Rebates and transfers.....	4,209.97
HYDRANT WRENCHES	
Refunds.....	610.00
MISCELLANEOUS DEPOSITS	
Rebates and work done.....	108.50
Total expenditures.....	\$ 22,124.57
Credit balance January 1, 1902.....	6,447.74
Total expenditures and balance.....	\$ 28,572.31

SPECIAL DEPOSIT FUND FOR LAYING WATER PIPE.

RECEIPTS.

Amount received from depositors.....	\$ 26,129.24
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EXPENDITURES.

Amount rebated and transferred to Water Fund.....	\$ 25,279.24
Credit balance January 1, 1902.....	850.00
Total expenditures and balance.....	\$ 26,129.24

TRIAL BALANCE, DEC. 31, 1901 -WATER FUND.

Water Fund	\$ 4,102,758.23	\$3,000,202.58
Water Works	33,365,288.19	1,256.00
Water Works income		54,931,900.01
Water Fund general taxes		2,718,878.53
Annexed territory		197,525.48
Current rents, assessed		2,158,351.52
Meter mechanical receipts		13,805.70
Current rents, meters		1,198,402.60
Water loan bonds, 4 per cent		3,191,500.00
Water loan bonds, 3, $\frac{1}{2}$ per cent		332,000.00
Water loan bonds, 3 $\frac{1}{2}$ per cent		328,500.00
Water loan bonds canceled		2,202,900.00
Water loan certificates	501,000.00	2,300,000.00
Water loan interest	9,055,666.21	
Water loan certificates canceled		3,866,000.00
Hyde Park water loan bonds, 5 per cent		50,000.00
Town of Lake water loan bonds, 5 per cent	15,000.00	30,000.00
Water Works expense and repair account	27,756,412.73	
Lake View water loan bonds, 4 per cent		50,000.00
Lake View water loan bonds, 5 per cent		23,000.00
Meter Department stock account	7,767.04	
Water Works shop stock account	36,996.24	3,221.17
Tapping Department stock account	2,451.55	1,061.23
Water pipe extension	167,028.91	19,356.05
Water pipe extension miscellaneous earnings		14,966.48
Water Works, repairs and maintenance	275,099.34	7,800.68
Water pipe extension stock account	145,744.28	
Water permit department receipts		20,824.06
Miscellaneous receipts water office		12,760.86
Chicago avenue pump operation	118,931.17	
Chicago avenue pump maintenance	19,804.26	
Chicago avenue pump construction	23,419.76	
Fourteenth street pump operation	112,818.83	
Fourteenth street bath maintenance	40.80	
Fourteenth street pump maintenance	12,382.10	
Fourteenth street bath operation	965.20	
Fourteenth street pump construction	8,372.50	
Harrison street pump operation	56,909.78	
Harrison street pump maintenance	7,468.42	
Harrison street pump construction	1,658.78	
West pump operation	100,544.91	
Twenty-second street bath operation	832.33	
West pump maintenance	10,013.36	
Twenty-second street bath maintenance	101.25	
Sixty-eighth street pump operation	104,889.04	1.00
Sixty-eighth street pump maintenance	15,911.40	
Lake View pump operation	68,309.33	
Lake View pump maintenance	13,664.49	
Springfield avenue pump operation	50,201.70	
Springfield avenue pump maintenance	4,693.29	
Springfield avenue pump construction	46,139.21	
Central Park avenue pump operation	62,100.79	
Central Park avenue pump maintenance	4,537.91	
Central Park avenue pump construction	33,346.44	
Washington Heights pump operation	8,715.18	
Washington Heights pump maintenance	1,762.73	
Washington Heights pump construction	10,214.84	
Norwood Park pump operation	5,098.51	
Norwood Park pump maintenance	376.22	

Carried forward..... \$76,337,432.25 \$76,759,213.95

BOOKKEEPER'S STATEMENT.

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Brought forward	\$76,337,432.25	\$76,759,213.95
Norwood Park pump construction	6,759.56	
Canal pump, unpaid bills of 1899	227.70	
Fullerton avenue pump operation	18,924.22	
Fullerton avenue pump maintenance	1,233.49	
Water Works shops	57,468.97	1.13
Water Works shops earnings		42,920.37
Two-mile crib operation	20,748.42	
Two-mile crib maintenance	606.18	
Four mile crib operation	6,114.69	
Four mile crib maintenance	93.83	
Lake View crib operation	6,663.21	
Lake View crib maintenance	652.76	
Hyde Park crib operation	6,216.13	
Hyde Park crib maintenance	681.05	
Carter H. Harrison crib operation	6,673.76	
Carter H. Harrison crib maintenance	870.31	
Carter H. Harrison crib construction	3,075.51	
Hydrant wrenches	30.00	2,297.82
Water Collection office salaries	55,090.64	
Water Assessor's office salaries	21,519.72	
Water meter rate office salaries	28,977.08	
Water meter mechanical office salaries	13,379.09	
Water permit office salaries	43,729.31	
Water inspection office salaries	41,308.32	
Water shut off office salaries	20,505.00	
Dredging inspectors and harbor police	7,749.25	
Water office expense	8,208.33	
Water office expense reimbursing City Engineer	1,481.00	
Water office postage	8,000.00	
Meter merchandise	6,214.23	551.23
Permit merchandise	6,027.64	
Commissioner's office salaries	14,878.24	
Commissioner's office expense	3,219.47	
City Engineer's office salaries	18,326.36	
City Engineer's office expense	963.51	
Refund erroneous water tax payments	10,400.57	
Old material sold		7,078.08
New land tunnel	5.75	
Maintenance of tunnel plant	69.89	
Intercepting sewers	417,611.24	
Water office rent	11,845.00	
Miscellaneous refunds	70.85	
Earnings account, meter connections	117.66	9,583.61
Council orders	233.33	
Court costs, legal expense, etc.	7,838.68	
Transportation account	7,593.00	
Restoration of streets, Water office	31.78	
Earnings account, use of water		2,587.08
Refund of public benefits		1,917.89
Earnings account, Bureau of Engineering		87.50
Hydrant rentals	22,661.77	
Unclaimed warrants of 1899 and 1900 deposited back		840.25
Advances to lay water mains		445,625.74
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	\$77,261,669.59	\$77,261,669.59

TRIAL BALANCE, DEC. 31, 1901—SPECIAL DEPOSIT
FUND FOR LAYING WATER PIPE.

Special Deposit Fund.....	\$	26,129.24	\$	25,279.24
E. C. Kimball.....		606.65		606.65
Sam Brown, Jr.....		3,892.50		3,892.50
John W. Turner.....		231.00		231.00
Sisters of St. Elizabeth hospital.....		750.00		750.00
John Oliver.....		652.00		652.00
C. J. Holmes.....				850.00
E. M. Clark.....		1,000.00		1,000.00
Tenniga Bros. & Son.....		619.83		619.83
Carl Labahn.....		275.00		275.00
E. A. Cummings & Co.....		3,236.25		3,236.25
Board of Education.....		1,000.00		1,000.00
Schwarzschild & Sulzberger.....		1,890.00		1,890.00
W. M. Derby, Jr.....		700.00		700.00
Norman D. Fraser.....		495.00		495.00
A. M. Rothschild & Co.....		1,055.50		1,055.50
Edward N. D'Ancona.....		250.00		250.00
Burr Robbins.....		550.00		550.00
Thomas H. Hulbert.....		593.76		593.76
Mrs. Augusta Nissen.....		275.00		275.00
George A. Seaverns.....		826.00		826.00
Chicago City Railway Co.....		1,706.00		1,706.00
Henry A. Knott & Co.....		225.00		225.00
E. Hamacher.....		775.00		775.00
S. E. Gross.....		300.00		300.00
W. D. Kerfoot & Co.....		600.00		600.00
Henry Giesdorff and S. T. Gunderson.....		500.00		500.00
Chicago & North-Western Railway Co.....		350.00		350.00
W. W. Lloyd.....		430.00		430.00
Charles H. Hulburd.....		175.00		175.00
Wittke & Pinkert.....		416.25		416.25
Charles J. Mortimer.....		666.00		666.00
	\$	51,170.98	\$	51,170.98

TRIAL BALANCE, DEC. 31, 1901—SPECIAL DEPOSIT
FUND, WATER DEPARTMENT.

Special Deposit Fund.....	\$	28,893.16	\$	22,145.42
Deposits for meter connections.....		10,916.60		15,138.34
Deposits for meters.....		6,219.50		6,219.50
Deposits for use of water.....		4,200.97		6,080.97
Deposits for hydrant wrenches.....		610.00		1,060.00
Miscellaneous deposits.....		189.35		394.85
	\$	51,038.58	\$	51,038.58

TRIAL BALANCE, DEC. 31, 1901—SEWERAGE FUND.

Sewerage Fund	\$ 300,617.17	\$ 255,441.05
Annexed territory		2,614,224.75
Sewers constructed by special deposit and special assessment		7,970,481.14
Sewers, North division	2,034,659.21	
Sewers, South division	7,607,046.64	
Sewers, West division	7,976,532.52	
Sewers, cover account	18,209.75	
Restoration of streets	8,406.51	5,000.00
Sewerage loan bonds, 4 per cent		2,121,500.00
Sewerage loan bonds, 4 per cent	488,600.00	488,600.00
Sewerage loan bonds canceled		875,500.00
Sewerage Fund, general taxes construction		4,933,532.48
Sewer maintenance account	1,673.50	3,968.00
Sewerage stock account	3,968.00	1,673.50
House drain salaries	33,128.98	34,024.00
House drain expense	586.89	1,000.00
Repairing sewers and catch basins	35,097.22	56,000.00
Cleaning sewers and catch basins		94,500.00
Sewer office salaries	11,557.66	12,390.00
Sewer office expense	500.00	500.00
Sixty ninth street pump operation { Old system } ..	1,677.54 {	1,681.75
Sixty ninth street pump maintenance { Old system } ..	2.83 }	
Sixty ninth street pump unpaid bills of 1900	334.45	334.45
Seventieth street pump operation	6,109.70 {	8,867.00
Seventieth street pump maintenance	2,397.30 }	
Seventy third street pump operation	5,565.64 {	7,789.75
Seventy third street pump maintenance	2,174.74 }	
Woodlawn pump operation	14,299.23 {	17,375.00
Woodlawn pump maintenance	3,114.96 }	
Woodlawn pump unpaid bills of 1898	58.92	58.92
Kensington pump operation	5,759.36 {	6,735.00
Kensington pump maintenance	923.39 }	
Bench monuments	2,658.27	
Adjusting sewers and catch basins	2,030.31	35,000.00
Cleaning sewers, First district	30,622.89	
Cleaning sewers, Second district	25,570.57	29.25
Cleaning sewers, Third district	15,786.11	
Cleaning sewers, Fourth district	13,251.22	
Operating air compressor, Rogers Park	3,368.33	3,500.00
Pullman pump operation	5,682.63 {	7,435.00
Pullman pump maintenance	1,266.90 }	
Sixty ninth street pump operation	1,297.82 {	9,733.70
Sixty ninth street pump maintenance { New system } ..	425.64 }	
Sixty ninth street pump construction	5,740.03 }	
Use of dumps, A. T. & S. F. & R. R.	156.10	156.10
Repairing Fifty-third street outfall	1,000.00	1,000.00
Improving Fifty-sixth street outfall	1,500.00	1,500.00
Purchase of atlas of Austin	280.00	280.00
Bringing grade atlases to date	2,000.05	3,780.00
Dredging Slip A	1,000.56	2,000.00

\$19,578,592.84 \$19,578,592.84

TRIAL BALANCE, DEC. 31, 1901—APPROPRIATION FUND.

Appropriation Fund.....	\$ 2,156,728.99	\$1,880,661.65
Steam roller salaries.....	1,182.13	1,630.00
Corporation Engineer and inspection.....	1,902.85	10,000.00
Ward superintendents' salaries.....	48,422.29	49,000.00
Public building operation.....	26,660.86	
Alterations in Corporation Counsel's office.....	2,302.15	7,500.00
Public building maintenance.....	8,053.20	70,604.58
Unpaid bills 1898 and 1899, City Hall.....	248.42	248.42
City Hall janitors' salaries.....	35,034.93	
Rent of yards.....	4,488.91	4,500.00
Temporary playgrounds.....		1,000.00
Washington park.....	992.81	833.33
Widening Lake street.....		7,638.00
Aldine square.....	818.93	1,000.00
Douglas Monument square.....	897.34	1,000.00
Ellis park.....	957.30	1,000.00
Bickerdike square.....	495.95	633.33
Fernwood park.....	301.46	400.00
Jefferson park.....	572.61	633.33
Triangular parks, Twenty-first ward.....	265.00	300.00
Normal park.....	915.31	1,000.00
Seventy-second street park.....	432.05	500.00
Irving park.....	312.56	633.33
East End park.....	84.75	633.34
East End park breakwater.....		1,500.00
Green Bay park.....	315.49	833.33
Holstein park.....	1,306.47	1,500.00
Oak park.....	336.83	833.34
Gross park.....	489.00	633.33
Congress park.....	593.74	633.33
Lakewood park.....	145.75	150.00
Norwood park.....	443.65	633.34
Dauphin park.....	318.00	633.34
DeKalb square.....	264.52	633.33
Kedzie park.....	54.50	150.00
City Engineer's office salaries.....	2,605.00	2,605.00
City Engineer's office expense.....	250.00	250.00
Commissioner's office salaries.....	2,374.00	2,374.00
Commissioner's office expense.....	350.00	350.00
Street department office salaries.....	18,452.94	22,666.00
Unpaid bills of 1899, Map Department.....	38.74	38.74
Street department office expense.....	1,500.00	1,500.00
Map office salaries.....	4,750.51	5,418.50
Paving Haymarket square.....	20,000.00	
Map office expense.....	406.40	1,100.00
Restoration of streets.....	14,799.43	73,000.00
Chicago harbor salaries.....	19,064.68	19,100.00
Removal of sunken vessels.....	4.50	1,500.00
Renewal of docks.....	3,426.74	10,000.00
Street opening and obstruction inspectors.....	7,876.00	9,000.00
Survey of Chicago river.....	242.25	
Viaduct and bridge repairs.....	99,817.86	118,008.00
Canal street viaduct.....	22,500.00	22,500.00
Bridge operation.....	15,035.42	
Bridge construction.....	18,000.00	350,000.00
Corporation inspectors' salaries.....	24,558.69	40,000.00
Bridge tenders' salaries.....	86,408.83	92,842.50
Repairing viaducts, to be repaid by railroad companies.....	10,387.50	50,000.00
Repairing Western avenue.....		1,000.00
Carried forward.....	\$2,669,132.24	\$2,873,025.30

BOOKKEEPER'S STATEMENT.

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Brought forward	\$2,689,132.24	\$2,573,023.39
Repairing Vincennes road	9.54	1,009.54
Repairing Milwaukee avenue		1,000.00
Repairing Lincoln avenue	428.40	1,428.40
Repairing Grand avenue		1,000.00
Repairing North Clark street		1,000.00
First ward, removal of snow	40,000.00	40,000.00
First ward, garbage	16,004.45	86,400.00
First ward, street cleaning	62,766.70	
First ward, street repairs	7,121.88	
First ward, sidewalk repairs	502.51	
Second ward, garbage	20,623.53	32,640.00
Second ward, street cleaning	10,163.19	
Second ward, street repairs	1,274.89	
Second ward, sidewalk repairs	555.14	
Second ward, unimproved streets	63.25	
Third ward, garbage	10,025.64	32,640.00
Third ward, street cleaning	10,868.07	
Third ward, street repairs	2,280.07	
Third ward, sidewalk repairs	622.14	
Third ward, unimproved streets	118.00	
Fourth ward, garbage	10,538.80	25,920.00
Fourth ward, street cleaning	10,597.31	
Fourth ward, street repairs	2,540.01	
Fourth ward, sidewalk repairs	1,882.64	
Fifth ward, garbage	9,333.09	25,920.00
Fifth ward, street cleaning	7,146.28	
Fifth ward, street repairs	2,210.12	
Fifth ward, sidewalk repairs	4,193.29	
Fifth ward, unimproved streets	2,630.02	
Fifth ward, special	105.00	605.00
Sixth ward, garbage	24,343.96	37,920.00
Sixth ward, street cleaning	10,858.72	
Sixth ward, street repairs	2,330.06	
Sixth ward, sidewalk repairs	189.61	
Seventh ward, garbage	18,998.39	37,920.00
Seventh ward, street cleaning	12,818.53	
Seventh ward, street repairs	3,625.31	
Seventh ward, sidewalk repairs	1,062.41	
Seventh ward, unimproved streets	796.56	
Eighth ward, garbage	7,284.03	26,160.00
Eighth ward, street cleaning	5,249.83	
Eighth ward, street repairs	1,157.31	
Eighth ward, sidewalk repairs	3,274.23	
Eighth ward, unimproved streets	7,897.17	
Eighth ward, special		1,000.00
Ninth ward, garbage	13,391.00	25,920.00
Ninth ward, street cleaning	8,981.66	
Ninth ward, street repairs	1,561.56	
Ninth ward, sidewalk repairs	1,592.30	
Tenth ward, garbage	10,800.64	23,040.00
Tenth ward, street cleaning	7,707.43	
Tenth ward, street repairs	1,729.60	
Tenth ward, sidewalk repairs	1,934.89	
Tenth ward, unimproved streets	305.25	
Eleventh ward, garbage	10,791.80	22,080.00
Eleventh ward, street cleaning	7,221.63	
Eleventh ward, street repairs	1,954.82	
Eleventh ward, sidewalk repairs	1,269.84	
Eleventh ward, unimproved streets	381.00	
Carried forward	\$3,041,177.26	\$3,296,592.33

Brought forward	\$3,081,117.26	\$3,296,592.33
Twelfth ward, garbage.....	10,344.47	24,000.00
Twelfth ward, street cleaning.....	4,558.07	
Twelfth ward, street repairs.....	2,900.53	
Twelfth ward, sidewalk repairs.....	2,767.04	
Twelfth ward, unimproved streets.....	1,358.75	
Thirteenth ward, garbage.....	14,898.58	23,580.00
Thirteenth ward, street cleaning.....	5,355.24	
Thirteenth ward, street repairs.....	1,742.59	
Thirteenth ward, sidewalk repairs.....	1,323.01	
Thirteenth ward, unimproved streets.....	52.50	
Fourteenth ward, garbage.....	18,605.35	30,720.00
Fourteenth ward, street cleaning.....	8,448.75	
Fourteenth ward, street repairs.....	2,279.01	
Fourteenth ward, sidewalk repairs.....	1,228.82	
Fourteenth ward, unimproved streets.....	109.87	
Fifteenth ward, garbage.....	12,491.65	25,920.00
Fifteenth ward, street cleaning.....	8,790.81	
Fifteenth ward, street repairs.....	2,268.98	
Fifteenth ward, sidewalk repairs.....	1,741.80	
Fifteenth ward, unimproved streets.....	177.50	
Sixteenth ward, garbage.....	12,031.40	29,760.00
Sixteenth ward, street cleaning.....	10,073.32	
Sixteenth ward, street repairs.....	3,858.16	
Sixteenth ward, sidewalk repairs.....	1,506.47	
Sixteenth ward, unimproved streets.....	140.75	
Seventeenth ward, garbage.....	18,278.67	31,760.00
Seventeenth ward, street cleaning.....	11,319.30	
Seventeenth ward, street repairs.....	679.55	
Seventeenth ward, sidewalk repairs.....	1,174.27	
Seventeenth ward, unimproved streets.....	184.62	
Eighteenth ward, garbage.....	15,807.26	38,400.00
Eighteenth ward, street cleaning.....	19,606.95	
Eighteenth ward, street repairs.....	2,326.22	
Eighteenth ward, sidewalk repairs.....	583.66	
Eighteenth ward, unimproved streets.....	71.00	
Nineteenth ward, garbage.....	20,504.60	34,560.00
Nineteenth ward, street cleaning.....	10,704.99	
Nineteenth ward, street repairs.....	1,337.58	
Nineteenth ward, sidewalk repairs.....	1,950.36	
Nineteenth ward, unimproved streets.....	58.50	
Twentieth ward, garbage.....	22,121.98	33,408.00
Twentieth ward, street cleaning.....	9,507.06	
Twentieth ward, street repairs.....	1,276.69	
Twentieth ward, sidewalk repairs.....	465.54	
Twentieth ward, unimproved streets.....	83.25	
Twenty-first ward, garbage.....	22,516.78	38,930.00
Twenty-first ward, street cleaning.....	14,355.16	
Twenty-first ward, street repairs.....	1,861.53	
Twenty-first ward, sidewalk repairs.....	242.50	
Twenty-second ward, garbage.....	17,633.67	33,220.00
Twenty-second ward, street cleaning.....	13,472.05	
Twenty-second ward, street repairs.....	1,235.31	
Twenty-second ward, sidewalk repairs.....	736.49	
Twenty-second ward, unimproved streets.....	127.35	
Twenty-third ward, garbage.....	14,432.19	25,920.00
Twenty-third ward, street cleaning.....	9,048.82	
Twenty-third ward, street repairs.....	1,476.46	
Twenty-third ward, sidewalk repairs.....	402.22	
Twenty-third ward, unimproved streets.....	62.15	
Carried forward	\$3,445,818.60	\$3,660,820.33

BOOKKEEPER'S STATEMENT.

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Brought forward	\$3,415,818.60	\$3,666,820.33
Twenty-fourth ward, garbage	11,641.10	24,960.00
Twenty-fourth ward, street cleaning	8,544.01	
Twenty-fourth ward, street repairs	2,718.67	
Twenty-fourth ward, sidewalk repairs	882.86	
Twenty-fourth ward, unimproved streets	453.90	
Twenty-fifth ward, garbage	17,084.57	28,900.00
Twenty-fifth ward, street cleaning	7,081.70	
Twenty-fifth ward, street repairs	2,896.47	
Twenty-fifth ward, sidewalk repairs	451.98	
Twenty-sixth ward, garbage	10,118.77	28,800.00
Twenty-sixth ward, street cleaning	9,118.47	
Twenty-sixth ward, street repairs	4,145.05	
Twenty-sixth ward, sidewalk repairs	1,757.14	
Twenty-sixth ward, unimproved streets	1,820.38	
Twenty-seventh ward, garbage	6,443.16	21,600.00
Twenty-seventh ward, street cleaning	4,805.82	
Twenty-seventh ward, street repairs	1,450.89	
Twenty-seventh ward, sidewalk repairs	2,019.58	
Twenty-seventh ward, unimproved streets	6,777.30	
Twenty-seventh ward, special		2,000.00
Twenty-eighth ward, garbage	10,785.72	25,920.00
Twenty-eighth ward, street cleaning	7,760.00	
Twenty-eighth ward, street repairs	2,537.62	
Twenty-eighth ward, sidewalk repairs	2,302.15	
Twenty-eighth ward, unimproved streets	810.50	
Twenty-ninth ward, garbage	8,526.12	30,240.00
Twenty-ninth ward, street cleaning	8,871.48	12.75
Twenty-ninth ward, street repairs	3,891.14	
Twenty-ninth ward, sidewalk repairs	2,561.81	
Twenty-ninth ward, unimproved streets	7,297.80	
Twenty-ninth ward, special	915.25	2,915.25
Thirtieth ward, garbage	13,681.61	30,240.00
Thirtieth ward, street cleaning	11,177.61	
Thirtieth ward, street repairs	2,462.20	
Thirtieth ward, sidewalk repairs	1,873.77	51.00
Thirtieth ward, unimproved streets	88.25	
Thirty-first ward, garbage	13,022.55	25,920.00
Thirty-first ward, street cleaning	7,384.64	
Thirty-first ward, street repairs	1,437.64	
Thirty-first ward, sidewalk repairs	1,396.76	
Thirty-first ward, unimproved streets	2,319.73	
Thirty-first ward, special		1,000.00
Thirty-second ward, garbage	14,420.97	30,240.00
Thirty-second ward, street cleaning	10,787.99	
Thirty-second ward, street repairs	1,430.01	
Thirty-second ward, sidewalk repairs	1,833.26	
Thirty-second ward, unimproved streets	1,757.76	
Thirty-second ward, special		1,000.00
Thirty-third ward, garbage	10,874.21	26,160.00
Thirty-third ward, street cleaning	3,976.42	
Thirty-third ward, street repairs	807.04	
Thirty-third ward, sidewalk repairs	1,982.59	
Thirty-third ward, unimproved streets	6,438.38	
Thirty-fourth ward, garbage	6,114.03	20,064.00
Thirty-fourth ward, street cleaning	5,492.83	
Thirty-fourth ward, street repairs	2,378.38	
Thirty-fourth ward, sidewalk repairs	2,538.95	
Thirty-fourth ward, unimproved streets	1,634.30	114.62
Thirty-fifth ward, garbage	6,699.79	17,184.00
Carried forward	\$3,736,520.31	\$3,981,011.05

DEPARTMENT OF PUBLIC WORKS.

Brought forward	\$3,736,720.31	\$3,984,041.95
Thirty-fifth ward, street cleaning	4,558.63	
Thirty-fifth ward, street repairs	1,712.55	
Thirty-fifth ward sidewalk repairs	1,951.91	
Thirty-fifth ward, unimproved streets	1,487.71	
Dumps	43,680.50	43,680.50
Ninety-fifth street bridge construction	77,751.98	
East Division street bridge construction	59,641.02	
Clybourn place bridge construction	118,097.67	
West Division street bridge construction	4,742.30	
North avenue bridge construction	594.87	
Archer avenue bridge construction	263.81	
Twenty-second street bridge construction	127.50	
Garbage destroying plant	1,763.82	25,000.00
Canal street bridge (pontoon)	4,622.87	5,000.00
	<u>\$4,057,672.45</u>	<u>\$4,057,672.45</u>

TRIAL BALANCE, DEC. 31, 1901—SPECIAL DEPOSIT FUND,
DEPARTMENT PUBLIC WORKS.

Special deposit fund	\$ 106,633.27	\$ 54,725.83
Street permit depositors	47,090.27	60,277.01
Permits to open alleys	3,060.00	8,740.00
Sundry corporations	595.00	18,299.04
Badge account	181.00	1,749.50
Bench monument keys		2.00
Street permits		22.56
Deposits for sewer work	3,799.56	5,909.81
Galena & Chicago Union Railroad Co.		882.55
Board of Education		4,677.50
Trustees Presbyterian Theological Seminary		1,397.50
Chicago Gas Light & Coke Co		830.00
Baird & Bradley		440.92
A. A. Campbell		40.00
Chas. B. Parsons		59.00
Mead & Coe		50.00
Geo. W. Cass		8.25
Taylor A. Snow		32.50
H. Schuler		47.00
J. L. Cochran		164.85
R. C. Givens		8.30
Refund erroneous water tax payments .....	.02	
	<u>\$ 161,359.12</u>	<u>\$ 161,359.12</u>

TRIAL BALANCE, DEC. 31, 1901—GENERAL FUND EARNINGS,
DEPARTMENT PUBLIC WORKS.

General fund	\$ 112,485.14	
Rents and compensations (No. 8)		\$ 7,665.42
Map office fees		599.46
Dredge and dock permits		5,158.80
House drains		18,694.50
Sidewalk certificates		439.50
Dumps		2,803.00
Carried forward	\$ 112,485.14	\$ 35,855.68

BOOKKEEPER'S STATEMENT.

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Brought forward	\$ 112,485.14	\$ 35,355.68
House moving permits		1,493.00
Earnings account, inspection		25,782.10
Earnings account, bridges		13,699.97
Receipts from railroad companies' account, viaducts		4,386.50
Earnings account, restoration of streets		21,934.41
Manure vault permits		211.00
Scale permits		51.00
Earnings account, sewer department and private work		4,258.77
Sale of old material		5,312.71
	<u>\$ 112,485.14</u>	<u>\$ 112,485.14</u>

Respectfully submitted,

HUGO RASPER,

Bookkeeper.



TE



35 11-20-01 18th St. Track Elevation - View West from 18th St.

ANNUAL REPORT

Department of Track Elevation

CITY OF CHICAGO

1901

JOHN O'NEILL
Superintendent

DEPARTMENT OF TRACK ELEVATION.

REPORT FOR THE YEAR 1901.

There has not been as much work done in the year 1901 in the elevation of railway tracks as in former years, owing to the high prices of labor and material, the railway companies holding back, I presume, with the expectation that there might possibly be a reduction in the present high price of material. Still we are gratified to know that there has been some work done of a highly satisfactory character, such as the elevation of the joint work between the Chicago & Alton Railroad Company, the Chicago, Madison & Northern Railroad Company and the Atchison, Topeka & Santa Fe Railway Company, under ordinance passed by the City Council May 22, 1899, from the bridge across the South branch at Bridgeport to a point west of Wallace street, a distance of a little more than 5.25 miles of main track, and about 15 miles of other tracks, eliminating thirteen grade crossings by subways, at an estimated cost of \$1,200,000. This work was commenced the 26th day of April, 1901, and continued until the work was stopped by the inclemency of the weather, about the 19th of December. Much credit is due to Major George W. Vaughn, the local engineer in charge of joint elevation at this point, for the ability and energy that he has displayed in crowding the work so that at no time has any street been closed to exceed ten days during the elevation of these tracks, with the exception of South Halsted street, upon which work was not sufficiently advanced to allow traffic to pass underneath the elevated tracks at this point before cold weather forced a suspension of the work. However, a temporary subway was constructed about 400 feet west of Halsted street, through which traffic has been diverted until the subway at Halsted street shall be fully and finally completed in the spring of 1902.

The Chicago & Western Indiana Railroad Company have commenced preparation for the elevation of their roadbed and tracks under ordinance of October 23, 1899, by the construction of retaining walls and foundations for the abutment walls of the subways. They have expended about \$325,000 in this work; and as the retaining walls have been constructed along their right of way from Seventy-second street to Forty-ninth street, they will commence early in the spring of 1902 to fill in the embankments and elevate their tracks, and I have no doubt that they will have the tracks between the points mentioned above elevated by fall of 1902.

The following ordinances have been passed during the year 1901:

February 11, 1901, an ordinance was passed by the City Council for the elevation of the roadbed and tracks of the Pittsburgh, Cincinnati, Chicago & St. Louis Railway Company, the Chicago & Northwestern Railway Company and the Chicago, Milwaukee & St. Paul Railway Company. This is called the "Kinzie Street Ordinance" and elevates in all about 6.75 miles of main tracks and 73 miles of all tracks, eliminating fourteen grade crossings by subways. The estimated cost of this work is \$1,800,000.

February 11, 1901, another ordinance was passed for the elevation of the roadbed and tracks of the Chicago, Rock Island & Pacific Railway Company and the Lake Shore & Michigan Southern Railway Company from a point about 700 feet south of Twelfth street to the north end of their tracks in the depot south of Van Buren street, and also for the elevation of the roadbed and tracks of the Lake Shore & Michigan Southern Railway Company and the Pittsburgh, Fort Wayne & Chicago Railway Company and its lessee, the Pennsylvania Company, from South Park avenue to a point about 300 feet west of the west line of the Illinois Central Railroad, elevating about 2.5 miles of main tracks and 8 miles of other tracks, and eliminating eight grade crossings, at an estimated cost of \$750,000. No work has been done under the above ordinances except the preliminary work so as to enable the companies interested to commence work in the spring of 1902.

An ordinance was prepared and presented to the City Council December 16, 1901, for the elevation of the roadbed and tracks of the Chicago & Northwestern Railway Company in West Forty-sixth avenue, from Kinzie street to Milwaukee avenue on the north; also the Belt Railway Company of Chicago from Kinzie street to a connection with the Chicago, Milwaukee & St. Paul Railway Company's tracks north of the Bloomingdale road; also for the elevation of the roadbed



3x11-20-01 18th Tract Elevation - Halsted St. - looking N.E. from roof of building west of Halsted



and tracks of the Chicago, Milwaukee & St. Paul Railway Company from West Fortieth avenue to West Fifty-first avenue. This ordinance contemplates the elevation of 9 miles of main tracks and 26 miles of all tracks, eliminating thirty grade crossings by subways, at an estimated cost of \$1,500,000. This ordinance has been passed, and accepted by the several railway companies interested.

An ordinance was prepared and presented to the City Council November 4, 1901, for the elevation of the roadbed and tracks of the Chicago Junction Railway Company and the Grand Trunk Western Railway Company from Wallace street to Western avenue, and the Pittsburgh, Cincinnati, Chicago & St. Louis Railway Company and the Chicago Terminal Transfer Railroad Company from Thirty-ninth street to Fifty-fifth street. This ordinance contemplates the elevation of about 10 miles of main tracks and about 30.4 miles of all tracks, eliminating thirty-four grade crossings by subways, at an estimated cost of \$1,000,000. This ordinance has been passed, and accepted by the railway companies interested.

There has been elevated under ordinances passed, 306.96 miles of railroad tracks and 337 grade crossings eliminated, at an estimated cost of \$18,905,000, the entire amount of which was paid by the railroad companies.

Ordinances have been passed by the City Council and accepted by the railroad companies under which no work has yet been done, 269.04 miles, eliminating 217 grade crossings, at an estimated cost of \$9,824,000.

When all work is fully and finally completed under ordinances passed, there will be a grand total of 574 miles of railroad tracks elevated, eliminating 554 grade crossings, at an estimated cost to the railroad companies of \$28,729,000.

There has been received on account of track elevation and covered into the City Treasury two hundred and eighty thousand dollars (\$280,000), as follows:

From the Lake Shore & Michigan Southern Railway Company	\$ 50,000
From the Chicago, Rock Island & Pacific Railway Company	50,000
From the Chicago City Railway Company on account of viaduct on Clark street north of Sixteenth street....	30,000
From the Chicago City Railway Company on account of 13.5 feet headroom in subways.....	150,000
Total.....	\$280,000

DEPARTMENT OF PUBLIC WORKS.

The following table shows the annual appropriation made by the City for the Department of Track Elevation and the annual expenditures of said department, viz.:

For the year 1898, appropriation	\$6,000.00	Expenses	\$5,455.90
For the year 1899, appropriation	6,990.00	Expenses	5,798.51
For the year 1900, appropriation	7,090.00	Expenses	5,137.62
For the year 1901, appropriation	6,000.00	Expenses	5,583.64
Totals.....	\$26,080.00		\$22,035.67

Respectfully submitted,

JOHN O'NEILL,

Superintendent Track Elevation.



39 5-1-01 18th St. Cable Car - Looking east from 18th St. Cable Car

REPORT OF
Special Park Commission



35 5-1-07 18th St. Ferry Elevator 1907-1908. Cable Ferry, San Francisco, Cal.

REPORT OF
Special Park Commission

REPORT OF SPECIAL PARK COMMISSION.

CITY OF CHICAGO, SPECIAL PARK COMMISSION,

Room 206, City Hall, March 1, 1902.

To the Honorable, the Mayor, and City Council of the City of Chicago:

GENTLEMEN- The Special Park Commission herewith submits its report for the year 1901.

A report was presented to the City Council January 28th and adopted February 4th, embodying the proposed small park and playground legislation by the General Assembly. This legislation, after repeated conferences between members of the General Assembly and this Commission, was passed by the Senate and House and approved by the Governor May 10th.

One of the acts is of a general enabling character, authorizing the statutory park boards to acquire, improve and maintain small parks or playgrounds not exceeding ten acres in area each. The second act authorizes the South Park Commissioners to issue \$1,000,000 in bonds for the above purposes. The third act gives the same authority to the West Chicago Park Commissioners, and the fourth act confers authority upon the Commissioners of Lincoln Park to issue \$500,000 in bonds for the same purpose. The expenditure of the moneys provided for by these enactments was lodged with the commissioners of the respective park boards.

The City Council, by resolutions adopted May 20, 1901, declared it to be the sense of the Council that in determining the location and area of the parks and playgrounds contemplated in the acts, the three park boards should co-operate with the Commission to the extent of requesting said Commission to recommend sites subject to the approval of the park boards and to complete its investigations for future use.

As soon as the membership in the Lincoln and West Park Boards was determined, Mr. Fred A. Bangs of the West Park Board, Mr. Bryan Lathrop of the Lincoln Park Board, and Mr. William Best of the South Park Board were selected to co-operate with this Commission as representatives of their respective boards.

Carrying out this plan of co-operation, the Commission is now engaged in preparing reports for the park boards, dealing with conditions which prevail in the districts of congested population remote from the existing parks, and showing by a series of maps the lack of playground space in connection with schools, the density of population per acre by election precincts, the mortality by sanitary divisions in 1901, and the centers of juvenile criminality and turbulence according to juvenile court records, finally making recommendations of small parks and playgrounds for the purpose of relieving these conditions. The Commission will present its first report to the West Park Board because the river and tenement wards in that part of Chicago are in more urgent need of relief than are the North and South Sides. The Commission realizes that the people look to it to guarantee a right beginning of this work along carefully considered lines, that the best results for the whole City may be attained with the available funds.

MUNICIPAL PLAYGROUNDS.

Under authority of the City Council granted November 19, 1900, your Commission opened five municipal playgrounds—the first to be established in Chicago—and took over the maintenance of a sixth playground. With the exception of the Goose Island one, the playgrounds were given the name of the public school near or adjoining which they are located. The Commission took over three pieces of City property, which by permission of the City Council were dedicated to this use. The location and areas of playgrounds on City property are as follows:

Moseley, northeast corner of Twenty-fourth street and Wabash avenue; 200 by 193 feet.

McLaren, West Polk street, between Laflin street and Ashland avenue; 175 by 182 feet.

Webster, Wentworth avenue, LaSalle street and Thirty-third street; 133 by 200 and 346 by 258 feet.

The playgrounds which are on property leased to the City free of charge are as follows, with areas:

Holden, Bonfield street, north of West Thirty-first street; 288 by 102 feet.

Jones, Plymouth court, between Harrison and Polk streets; 150 by 100 feet.

Goose Island, Bliss, Hooker and Division streets and Hickory avenue; 300 by 349 by 711 by 531 feet.

The Commission desires to acknowledge its obligation to the

Chicago Architectural Club for architectural service, to Mr. Dwight Heald Perkins, chairman of the Playground Committee, for plans, specifications and superintendence of playground construction and equipment; to Mr. Frederick Greeley for surveys of playground sites. All of these services were rendered without cost to the Commission.

The Moseley playground was opened August 10th with appropriate exercises, in which the public manifested great interest. These grounds will be enlarged May 1st by the removal of a stable, the lease of tenant expiring on that date.

With similar exercises the Holden playground was opened August 24th, and the McLaren September 7th.

The Webster playground was opened September 14th. The opening exercises were abandoned owing to the death of President McKinley.

The Goose Island playground is not finished at this date, but it is thrown open to the public for use in its present condition, and with the funds available this year will be completed and equipped.

The Jones playground on Plymouth court had been conducted at private expense as a philanthropic enterprise for the benefit of First Ward boys and girls. Proper support having been withdrawn, this playground was taken over by the Commission October 1st, and has since been improved and maintained by it.

All of these grounds have been turned into skating rinks and the skating feature has met with popular approval. The attendance has been large and appreciative.

Of the \$10,000 appropriated in 1901 for the use of the Commission, and the \$10,000 available from the 1900 appropriation on account of pending contracts, the principal expenditures were as follows:

General playground construction.....	\$11,813.85
Playground apparatus.....	2,807.47
Miscellaneous playground supplies.....	743.16
Salaries of playground directors.....	1,659.47
Salary of secretary and playground superintendent..	1,500.00
Wages of watchman and laborers.....	32.50
Total.....	\$18,556.45

The remainder of the \$20,000 was spent in examining sites and general investigation, expenses in connection with State legislation, preparing and publishing maps, plans and reports, expenses of the Secretary and office supplies.

Under the head of general construction is included grading and filling land, building fences, store rooms, office buildings for directors,

toilet rooms, sand courts, shelter buildings, excavating and grading for skating ponds and excavating and curbing for running track.

Under the head of general supplies is included removing and reconstructing City buildings, hauling donated equipment, roofing removed City building, hauling and supplying tan bark, electric lighting and fitting up skating rinks.

The playgrounds have been under the control of directors selected under civil service rules. They have charge of the grounds, buildings and apparatus. As far as time permits they also give instruction in the use of apparatus. The result has been satisfactory; parents feel safe in sending small children there, and the larger ones are kept in order largely by sharing the control of the younger ones and assuming the care of apparatus with the director.

The government of the playgrounds is left largely to the discretion of the directors—simple rules being posted for guidance when required.

To give the playgrounds an attractive appearance it is proposed to plant shade trees along the borders and in other places which will not interfere with the free play of the children, also to plant vines alongside the wire fences. The playgrounds could also be brightened by a few flowers planted through volunteer effort. Flower beds have been successfully made and retained at the playgrounds of Hull House and the University of Chicago settlement.

The Commission has received generous assistance from the City Home Association, Mr. C. L. Hutchinson, Mr. Livingston Fargo, the Police Department, the Fire Department, various individuals in connection with opening exercises, and the City Electrical Department, all of which is gratefully acknowledged.

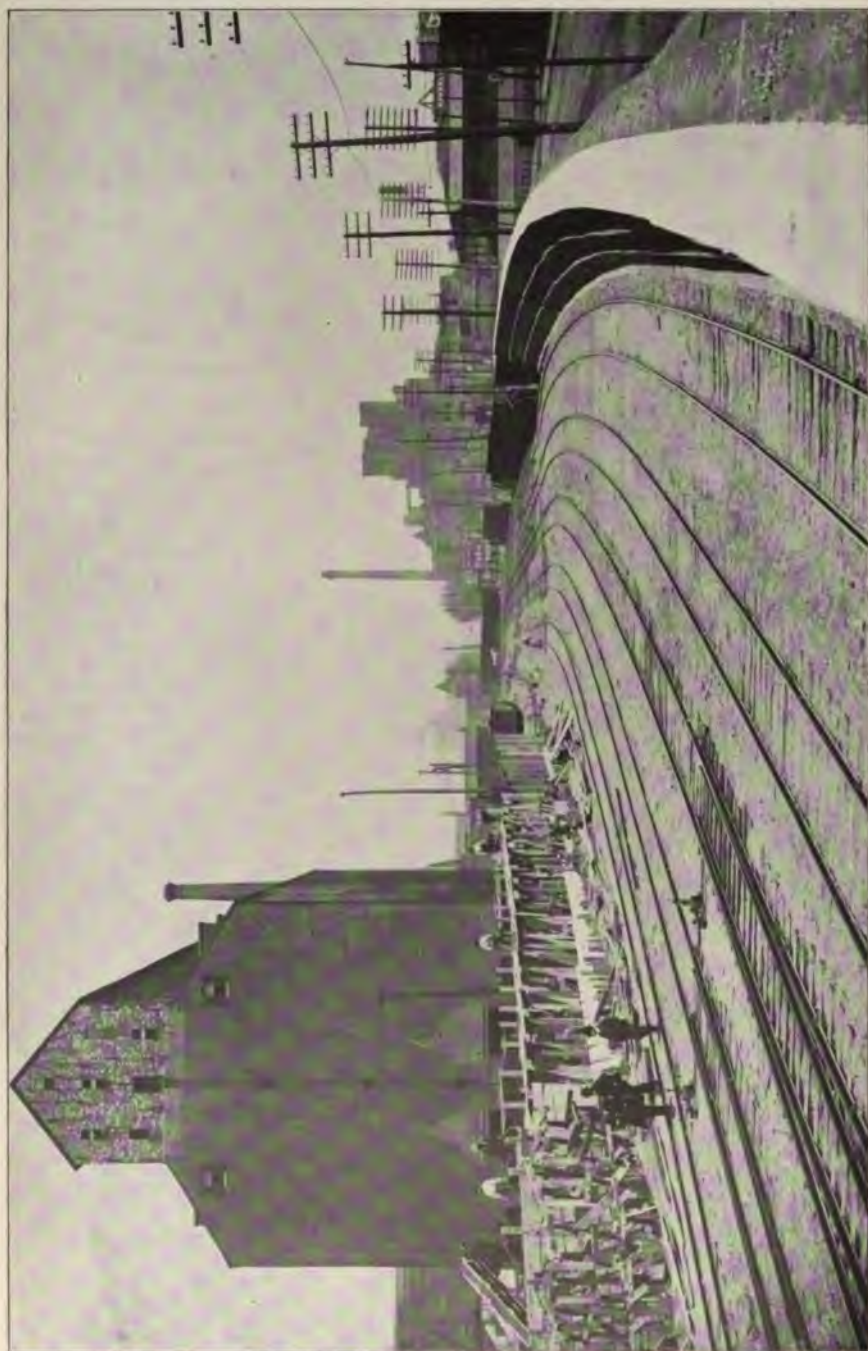
The Commission will have an extensive report to present to the City Council dealing with the establishment of small parks and playgrounds in connection with the expenditure of \$2,500,000 by the three park boards.

Respectfully submitted,

WM. S. JACKSON, *Chairman.*

A. W. O'NEILL, *Secretary.*





18TH STREET TRACK ELEVATION - LOOKING EAST FROM HALSTED STREET.

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DEPARTMENT OF PUBLIC WORKS.

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